

EXHIBIT B

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8 IN THE UNITED STATES DISTRICT COURT
9 FOR THE NORTHERN DISTRICT OF CALIFORNIA

10
11 IN RE: SOCIAL MEDIA ADOLESCENT
12 ADDICTION/PERSONAL INJURY
13 PRODUCTS LIABILITY LITIGATION

No. 4:22-MD-3047

MDL No. 3047

14 This Document Relates to:
15

**PLAINTIFFS' AMENDED MASTER
COMPLAINT (PERSONAL INJURY)**

16 ALL ACTIONS
17

JURY TRIAL DEMANDED

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1 **I. INTRODUCTION**

2 1. American children are suffering an unprecedented mental health crisis fueled by
3 Defendants' addictive and dangerous social media products.

4 2. In the past decade, Americans' engagement with social media grew exponentially,
5 nowhere more dramatically than among our country's youth. That explosion in usage is no accident.
6 It is the result of Defendants' studied efforts to induce young people to compulsively use their
7 products—Instagram, Facebook, TikTok, Snapchat, and YouTube. Borrowing heavily from the
8 behavioral and neurobiological techniques used by slot machines and exploited by the cigarette
9 industry, Defendants deliberately embedded in their products an array of design features aimed at
10 maximizing youth engagement to drive advertising revenue. Defendants know children are in a
11 developmental stage that leaves them particularly vulnerable to the addictive effects of these
12 features. Defendants target them anyway, in pursuit of additional profit.

13 3. The defects in Defendants' products vary by platform, but all exploit children and
14 adolescents. They include but are not limited to an algorithmically-generated, endless feed to keep
15 users scrolling in an induced "flow state;" "intermittent variable rewards" that manipulate
16 dopamine delivery to intensify use; "trophies" to reward extreme usage; metrics and graphics to
17 exploit social comparison; incessant notifications that encourage repetitive account checking by
18 manufacturing insecurity; inadequate, essentially illusory age verification protocols; and deficient
19 tools for parents that create the illusion of control.

20 4. The resulting ubiquity of Defendants' products in the lives and palms of our kids,
21 and the ensuing harm to them, is hard to overstate. Today, over a third of 13- to 17-year-old kids
22 report using one of Defendants' apps "almost constantly" and admit this is "too much." Yet more
23 than half of these kids report that they would struggle to cut back on their social media use. Instead
24 of feeding coins into machines, kids are feeding Defendants' platforms with an endless supply of
25 attention, time, and data.

26 5. Defendants' choices have generated extraordinary corporate profits—and yielded
27 immense tragedy. Suicide rates for youth are up an alarming 57%. Emergency room visits for
28 anxiety disorders are up 117%. In the decade leading up to 2020, there was a 40% increase in high

1 school students reporting persistent sadness and hopelessness, and a 36% increase in those who
 2 attempted to take their own lives. In 2019, one in five high school girls had made a suicide plan. In
 3 2021, one in three girls seriously considered attempting suicide. Children and their parents and
 4 guardians across the country have struggled to cope with the severe, lasting damage visited on their
 5 families by anxiety, depression, addiction, eating disorders, self-harm, suicidality, and the loss of
 6 outliving one's child.

7 6. This lawsuit follows on a growing body of scientific research, including Defendants'
 8 own internal (previously concealed) studies, that draws a direct line between Defendants'
 9 conscious, intentional design choices and the youth mental health crisis gripping our nation.
 10 Instagram, Facebook, TikTok, Snapchat, and YouTube have rewired how our kids think, feel, and
 11 behave. Disconnected "Likes" have replaced the intimacy of adolescent friendships. Mindless
 12 scrolling has displaced the creativity of play and sport. While presented as "social," Defendants'
 13 products have in myriad ways promoted disconnection, disassociation, and a legion of resulting
 14 mental and physical harms.

15 7. The U.S. Surgeon General recently explained that children versus Big Tech is "just
 16 not a fair fight."¹ "You have some of the best designers and product developers in the world who
 17 have designed these products to make sure people are maximizing the amount of time they spend
 18 on these platforms. And if we tell a child, use the force of your willpower to control how much
 19 time you're spending, you're pitting a child against the world's greatest product designers."

20 8. Over the past year, hundreds of personal injury actions have been filed in courts
 21 across the country alleging that Defendants defectively designed their platforms—in foreseeably
 22 unsafe ways and in dereliction of their basic duties of care—to induce harmful, unhealthy, and
 23 compulsive use by kids. Plaintiffs in these cases are the young people across the country whose
 24 descent into the void of social media has led to serious and sometimes fatal harm, and their parents
 25
 26

27 ¹ Allison Gordon & Pamela Brown, *Surgeon General says 13 is 'too early' to join social media*,
 28 CNN (Jan. 29, 2023), <https://www.cnn.com/2023/01/29/health/surgeon-general-social-media/index.html>. Exhibits and referenced materials are incorporated in this *Master Complaint* as
 if fully stated herein.

1 and guardians. Defendants are the multibillion-dollar corporations who designed unsafe products
 2 that hopelessly outmatch parents' struggle to keep their children healthy and safe.

3 9. Plaintiffs file this *Master Complaint (Personal Injury)* ("Complaint") as an
 4 administrative device, to set forth the potential claims and facts that individual Plaintiffs may assert
 5 in this multidistrict proceeding against Defendants.² Unless otherwise indicated, Plaintiffs make
 6 allegations about themselves based on personal knowledge, and allegations about Defendants on
 7 information and belief generally gained through their attorneys' investigations.

8 * * *

9 10. Over the past decade, Defendants have relentlessly pursued a strategy of growth-at-
 10 all-costs, recklessly ignoring the impact of their products on children's mental and physical health
 11 and well-being.³ In a race to corner the "valuable but untapped" market of tween and teen users,
 12 each Defendant designed product features to promote repetitive, uncontrollable use by kids.⁴

13 11. Adolescents and children are central to the Defendants' business models. These age
 14 groups are highly connected to the Internet, more likely to have social media accounts, and more
 15 likely to devote their downtime to social media usage. Additionally, youth influence the behavior
 16 of their parents and younger siblings. As one Defendant put it, "los[ing] the teen foothold in the
 17 U.S." would mean "los[ing] the pipeline" for growth.⁵

19

 20 ² Case Management Order No. 3, Dkt. No. 111 at 2; see *In re Propulsid Products Liab. Litig.*, 208
 21 F.R.D. 133, 141 (E.D. La. 2002). The *Master Complaint* does not necessarily include all claims or
 22 allegations that have been or will be asserted in each action filed in, or transferred to, this Court.
 23 Individual plaintiffs may adopt the allegations and claims in this *Master Complaint* through a
 24 separate *Short Form Complaint*. See Exhibit A (template *Master Short Form Complaint*).
 25 Individual plaintiffs may supplement or add allegations, claims, or defendants to their respective
 26 *Short Form Complaints*. This *Master Complaint* does not waive or dismiss any claims in any
 27 individual action. Nor does any Plaintiff relinquish any right they otherwise would have had,
 28 absent this *Master Complaint*, to amend (or move to amend) their *Short Form Complaints*.

³ See, e.g., Haugen_00000934 (admission by a Software Engineer at Meta, that "It's not a secret
 26 that we've often resorted to aggressive tactics in the name of growth, and we've been pretty
 27 unapologetic about it.").

⁴ Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram
 26 Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), [https://www.wsj.com/articles/facebook-
 27 instagram-kids-tweens-attract-11632849667](https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667); see also Haugen_00022339.

⁵ Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its 'Pipeline': Young Users*,
 26 N.Y. Times (Oct. 26, 2021), available at
<https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

1 12. Recognizing the power of engaging young users, Defendants deliberately tweaked
 2 the design and operation of their apps to exploit the psychology and neurophysiology of kids.
 3 Because children's and adolescents' brains are not fully developed, they lack the same emotional
 4 maturity, impulse control, and psychological resiliency as adults. As a result, they are uniquely
 5 susceptible to addictive features in digital products and highly vulnerable to the consequent harms.
 6 Knowing this, Defendants wrote code designed to manipulate dopamine release in children's
 7 developing brains and, in doing so, create compulsive use of their apps.

8 13. Defendants' strategy paid off. Users of their products now number in the billions,
 9 and the frequency and time spent by these users has grown exponentially. This has allowed
 10 Defendants to harvest a vast amount of personal user data—from the school you attend, to the
 11 sneakers you covet, to the places you've been and the people you've met. This, in turn, has allowed
 12 Defendants to mint a fortune, by selling to others the ability to micro-target advertisements to
 13 incredibly narrow slices of the public.⁶

14 14. Defendants' growth has come at the expense of its most vulnerable users: children
 15 around the world, including Plaintiffs, who they cultivated and exploited. Plaintiffs are not merely
 16 the collateral damage of Defendants' products. They are the direct victims of the intentional product
 17 design choices made by each Defendant. They are the intended targets of the harmful features that
 18 pushed them into self-destructive feedback loops.

19 15. As a direct result of Defendants' successful promotion of their defective products,
 20 the rates of mental health issues among children have climbed steadily since 2010. By 2018, suicide
 21 was the second leading cause of death for youth.⁷

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 24
 25 ⁶ See Snap, Inc., 2022 Annual Report (Form 10-K) at 15 (Jan. 31, 2023) ("[W]e rely heavily on
 26 our ability to collect and disclose data[] and metrics to our advertisers so we can attract new
 27 advertisers and retain existing advertisers. Any restriction or inability, whether by law, regulation,
 28 policy, or other reason, to collect and disclose data and metrics which our advertisers find useful
 would impede our ability to attract and retain advertisers.").

7 CDC, *Deaths: Leading Causes for 2018*, 70(4) National Vital Statistics Reports at 10 (May 17,
 2021), <https://www.cdc.gov/nchs/data/nvsr/nvsr70/nvsr70-04-508.pdf>.

1 16. Weeks later, In late 2021, the U.S. Surgeon General issued an advisory “to highlight
 2 the urgent need to address the nation’s youth mental health crisis.”⁸ In a scathing rebuke of the
 3 assault on our children, the Surgeon General recognized the dangerous designs in Defendants’
 4 products and Defendants’ abdication of responsibility for the resulting harms:

5 In these digital public spaces, which are privately owned and tend to
 6 be run for profit, there can be tension between what’s best for the
 7 technology company and what’s best for the individual user or for
 8 society. Business models are often built around maximizing user
 9 engagement as opposed to safeguarding users’ health and ensuring
 10 that users engage with one another in safe and healthy ways

11 **[T]echnology companies must step up and take responsibility for
 12 creating a safe digital environment for children and youth.** Today, most companies are not transparent about the impact of their
 13 products, which prevents parents and young people from making
 14 informed decisions and researchers from identifying problems and
 15 solutions.⁹

16 17. The Surgeon General’s comments have since been echoed by President Biden
 17 himself. In both his 2022 and 2023 State of the Union Addresses, the President urged the nation to
 18 “hold social media platforms accountable for the national experiment they’re conducting on our
 19 children for profit.”¹⁰ In a January 11, 2023 op-ed, President Biden amplified this point: “The risks
 20 Big Tech poses for ordinary Americans are clear. Big Tech companies collect huge amounts of data
 21 on the things we buy, on the websites we visit, on the places we go and, most troubling of all, on
 22 our children.”¹¹ The President observed that “millions of young people are struggling with bullying,
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⁸Press Release, U.S. Dep’t Health & Hum. Servs., *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic* (Dec. 7, 2021), <https://www.hhs.gov/about/news/2021/12/07/us-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic.html>.

⁹ U.S. Surgeon General’s Advisory, *Protecting Youth Mental Health* (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf> (emphasis in original).

¹⁰ The White House, President Biden’s State of the Union Address (Mar. 1, 2022), <https://www.whitehouse.gov/state-of-the-union-2022/>; *see also* The White House, *President Biden’s State of the Union Address* (Feb. 7, 2023), <https://www.whitehouse.gov/state-of-the-union-2023/>.

¹¹ Joe Biden, *Republicans and Democrats, Unite Against Big Tech Abuses*, Wall St. J. (Jan. 11, 2023), <https://www.wsj.com/articles/unite-against-big-tech-abuses-social-media-privacy-competition-antitrust-children-algorithm-11673439411>.

1 violence, trauma and mental health” as a result of Defendants’ conduct and products, and again
 2 stated that “[w]e must hold social-media companies accountable” for their role in this crisis.¹²

3 18. These statements by President Biden and the Surgeon General are in line with a
 4 substantial body of peer-reviewed scientific literature documenting the harmful impact that
 5 Defendants’ apps have on our children, including the various injuries suffered by Plaintiffs. This
 6 body of research demonstrates that Defendants’ defectively designed products can cause the harms
 7 Plaintiffs suffer: addiction, compulsive use, anxiety, depression, eating disorders, body
 8 dysmorphia, self-harm, sexual exploitation, suicidal ideations, other serious diseases and injuries,
 9 and suicide itself. Overall rates of these disorders have increased greatly because of widespread
 10 consumption of Defendants’ products by children in this country and across the world.

11 19. Defendants knew or should have known about the risks of such addiction—which
 12 at least one Defendant euphemistically calls “problematic use.”¹³ They could have changed their
 13 products to avoid the harm. They could have warned the public and Plaintiffs about the danger.
 14 Instead, Defendants placed growth first.

15 20. Plaintiffs seek to recover damages from Defendants and hold them responsible for
 16 personal injuries resulting from their wrongful conduct. That conduct includes: (a) designing
 17 defective products that caused serious injuries to users; (b) failing to provide adequate warnings
 18 about serious and reasonably foreseeable health risks from use of the products; (c) failing to utilize
 19 reasonable care in, among other things, developing, designing, managing, operating, testing,
 20 producing, labeling, marketing, advertising, promoting, controlling, selling, supplying, and
 21 distributing their products; and (d) as to Meta, engaging in the deliberate concealment,

22
 23 ¹² Joe Biden, *Republicans and Democrats, Unite Against Big Tech Abuses*, Wall St. J. (Jan. 11,
 24 2023), <https://www.wsj.com/articles/unite-against-big-tech-abuses-social-media-privacy-competition-antitrust-children-algorithm-11673439411>.

25 ¹³ See Haugen_00016373 at Haugen_00016379 (internal Meta report from March 2020
 26 summarizing internal research on “problematic use”—when a user “experienc[es] both of the
 27 following issues ‘very often’ or ‘all the time’: Lack of control or feelings of guilt over Facebook
 28 use. Negative impact in at least one of the following areas: productivity, sleep, parenting, or
 relationships.”); Haugen_00016373 at Haugen_00016412, Haugen_00016490 (referring to
 “problematic use” as “Loss of Control Over Time Spent” or “LCOTS”); Haugen_00016373 at
 Haugen_00016379 (recognizing that “Problematic Use” is “sometimes referred to as ‘social
 media addiction’ externally”).

1 misrepresentation, and obstruction of public awareness of serious health risks to users of its
 2 products.

3 **II. THE PARTIES**

4 **A. PLAINTIFFS**

5 21. This Complaint is filed on behalf of children who suffered personal injuries—and,
 6 in cases of death, the personal representatives of their estates (“Plaintiffs”)—due to their use of
 7 Defendants’ products and, where applicable, their parents, guardians, spouses, children, siblings,
 8 and close family members, who suffered loss of society or consortium and other injuries as a
 9 consequence of the harms to Plaintiffs (“Consortium Plaintiffs”), who file a *Short Form Complaint*.
 10 By operation of an anticipated Court order, all allegations pled in this Complaint are deemed pled
 11 in any *Short Form Complaint* as to the Defendants identified therein.

12 22. Plaintiffs have suffered various personal injuries because of their use of Defendants’
 13 products. Plaintiffs and Consortium Plaintiffs have been harmed as a direct and proximate result of
 14 Defendants’ wrongful conduct. These harms include pain, suffering, disability, impairment,
 15 disfigurement, death, an increased risk of injury and other serious illnesses, loss of enjoyment of
 16 life, loss of society, aggravation or activation of preexisting conditions, scarring, inconvenience,
 17 incurred costs for medical care and treatment, loss of wages and wage-earning capacity, and other
 18 economic and non-economic damages (specifically including any injuries set forth in a *Short Form*
 19 *Complaint*). These losses are often permanent and continuing in nature.

20 23. Plaintiffs expressly disaffirm any contract they may have made with any of the
 21 Defendants, or that Defendants may claim they made with them, before reaching the age of
 22 majority, as they lacked capacity to contract.

23 24. Plaintiffs also expressly disaffirm any contract they may have made with any of the
 24 Defendants, or that Defendants may claim they made with them, after reaching the age of majority,
 25 because Plaintiffs’ continued use of Defendants’ products was compulsive and due to addiction,
 26 not an affirmation of any contract.

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1 **B. DEFENDANTS**

2 25. The defendants identified in this section are collectively referred to as “Defendants”
 3 throughout this *Complaint*.

4 **1. Meta**

5 26. Defendant Meta Platforms, Inc. (“Meta Platforms”) is a Delaware corporation and
 6 multinational technology conglomerate. Its principal place of business is in Menlo Park, CA.

7 27. Meta Platforms’ subsidiaries include, but may not be limited to, the entities
 8 identified in this section, as well as a dozen others whose identity or involvement is presently
 9 unclear.

10 28. Defendant Facebook Payments, Inc. (“Facebook 1”) is a wholly owned subsidiary
 11 of Meta Platforms that was incorporated in Florida on December 10, 2010. Facebook 1 manages,
 12 secures, and processes payments made through Meta Platforms, among other activities. Its principal
 13 place of business is in Menlo Park, CA.

14 29. Defendant Siculus, Inc. (“Siculus”) is a wholly owned subsidiary of Meta Platforms
 15 that was incorporated in Delaware on October 19, 2011. Siculus constructs data facilities to support
 16 Meta Platforms’ products. Its principal place of business is in Menlo Park, CA.

17 30. Defendant Facebook Operations, LLC (“Facebook 2”) is a wholly owned subsidiary
 18 of Meta Platforms that was incorporated in Delaware on January 8, 2012. Facebook 2 is likely a
 19 managing entity for Meta Platforms’ other subsidiaries. Meta Platforms is the sole member of this
 20 LLC, whose principal place of business is in Menlo Park, CA.

21 31. Defendant Instagram, LLC (“Instagram, LLC”) launched an app called Instagram in
 22 October 2010. On or around April 7, 2012, Meta Platforms purchased Instagram, LLC for over one
 23 billion dollars and reincorporated the company in Delaware. Meta Platforms is the sole member of
 24 this LLC, whose principal place of business is in Menlo Park, CA.

25 32. Meta Platforms, Instagram, Siculus, Facebook 1, and Facebook 2 are referred to
 26 jointly as “Meta.”

27 33. Meta owns, operates, controls, produces, designs, maintains, manages, develops,
 28 tests, labels, markets, advertises, promotes, supplies, and distributes digital products available

1 through mobile- and web-based applications (“apps”), including Instagram and Facebook (together,
 2 “Meta products”); Messenger; and Messenger Kids. Meta’s apps and devices are widely distributed
 3 to consumers throughout the United States.

4 **2. Snap**

5 34. Defendant Snap Inc. (“Snap”) is a Delaware corporation. Its principal place of
 6 business is in Santa Monica, CA.

7 35. Snap owns, operates, controls, produces, designs, maintains, manages, develops,
 8 tests, labels, markets, advertises, promotes, supplies, and distributes the app Snapchat. Snapchat is
 9 widely available to consumers throughout the United States.

10 **3. ByteDance**

11 36. Defendant ByteDance Ltd. is a global company incorporated in the Cayman Islands.
 12 Its principal place of business is in Beijing, China. ByteDance Ltd. also maintains offices in the
 13 United States, Singapore, India, and the United Kingdom, among other locations.

14 37. ByteDance Ltd. wholly owns its subsidiary Defendant ByteDance Inc., a Delaware
 15 corporation whose principal place of business is in Mountain View, CA.

16 38. ByteDance Ltd.’s key Chinese subsidiary is Beijing Douyin Information Service
 17 Limited, f/k/a Beijing ByteDance Technology Co. Ltd. (“Beijing ByteDance”).¹⁴ Beijing
 18 ByteDance owns, operates, and holds key licenses to Douyin, the Chinese version of TikTok. On
 19 or around April 30, 2021, the Chinese government took a 1% stake in, and received one of three
 20 seats on the board of directors of, Beijing ByteDance.¹⁵ Specifically, 1% of Beijing ByteDance is
 21 now owned by WangTouZhongWen (Beijing) Technology, which in turn is owned by China
 22 Internet Investment Fund (China’s top Internet regulator and censor), China Media Group (China’s
 23

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 25 ¹⁴ See Sophie Webster, *ByteDance Changes Names of Subsidiaries to Douyin, Speculated to be*
Mulling an IPO, Tech Times (May 8, 2022), available at
<https://www.techtimes.com/articles/275188/20220508/bytedance-changes-names-subsidiaries-douyin-speculated-mulling-ipo.htm>.

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 27 ¹⁵ See Juro Osawa & Shai Oster, *Beijing Tightens Grip on ByteDance by Quietly Taking Stake, China Board Seat*, The Information (Aug. 16, 2021), available at
<https://www.theinformation.com/articles/beijing-tightens-grip-on-bytedance-by-quietly-taking-stake-china-board-seat?rc=ubpjcg>.

1 national broadcaster, controlled by the Chinese Communist Party’s propaganda department), and
 2 the Beijing municipal government’s investment arm.

3 39. ByteDance Ltd. wholly owns its subsidiary Defendant TikTok, Ltd., a Cayman
 4 Island corporation with its principal place of business in Shanghai, China.

5 40. TikTok, Ltd. wholly owns its subsidiary Defendant TikTok, LLC which is, and at
 6 all relevant times was, a Delaware limited liability company.

7 41. TikTok, LLC wholly owns its subsidiary Defendant TikTok, Inc. f/k/a Musical.ly,
 8 Inc. (“TikTok, Inc.”), a California corporation with its principal place of business in Culver City,
 9 CA.

10 42. Defendants TikTok, Ltd.; TikTok, LLC; TikTok, Inc.; ByteDance Ltd.; and
 11 ByteDance Inc. are referred to jointly as “ByteDance.”

12 43. ByteDance owns, operates, controls, produces, designs, maintains, manages,
 13 develops, tests, labels, markets, advertises, promotes, supplies, and distributes the app TikTok.
 14 TikTok is widely available to consumers throughout the United States.

15 4. Google

16 44. Google Inc. was incorporated in California in September 1998 and reincorporated
 17 in Delaware in August 2003. In or around 2017, Google Inc. converted to a Delaware limited
 18 liability company, Defendant Google, LLC (together with its predecessor-in-interest Google Inc.,
 19 “Google”). Google’s principal place of business is in Mountain View, CA.

20 45. Since 2006, Google has operated, done business as, and wholly owned as its
 21 subsidiary Defendant YouTube, LLC (“YouTube, LLC”). YouTube, LLC is a Delaware limited
 22 liability company with its principal place of business in San Bruno, CA. YouTube is widely
 23 available to consumers throughout the United States.¹⁶

24 46. On October 2, 2015, Google reorganized and became a wholly owned subsidiary of
 25 a new holding company, Alphabet Inc., a Delaware corporation with its principal place of business
 26 in Mountain View, CA.

27 ¹⁶ See, e.g., Alphabet Inc., *Form 10-Q*, Oct. 25, 2022, at 4 (defining Alphabet as “Alphabet Inc.
 28 and its subsidiaries.”), available at <https://www.sec.gov/Archives/edgar/data/1652044/000165204422000090/goog-20220930.htm>.

1 47. Google, LLC and YouTube, LLC (together, “Google”) are alter egos of one another:
 2 together and in concert they own, operate, control, produce, design, maintain, manage, develop,
 3 test, label, market, advertise, promote, supply, and distribute the app YouTube.

4 **III. JURISDICTION AND VENUE**

5 48. This Court has subject-matter jurisdiction over various constituent cases in this
 6 multidistrict litigation pursuant to 28 U.S.C. § 1332(a) because Plaintiffs and Defendants in such
 7 cases are residents of different states, and the amount in controversy exceeds \$75,000.

8 49. This Court has subject-matter jurisdiction over various constituent cases in this
 9 multidistrict litigation pursuant to 28 U.S.C. § 1331 because they involve questions of federal law
 10 arising under 18 U.S.C. §§ 2255, 1595, 2252A(f), and/or 2258B. This Court has supplemental
 11 jurisdiction under 28 U.S.C. § 1367(a) over Plaintiffs’ state law claims because all claims alleged
 12 herein form part of the same case or controversy.

13 50. This Court has personal jurisdiction over Defendants because they are incorporated
 14 in and have their principal places of business in California, and because they have contacts with
 15 California that are so continuous and systematic that they are essentially at home in this state. Meta,
 16 Google, and ByteDance, Inc. maintain their principal places of business within this District. Snap
 17 and TikTok Inc. maintain their headquarters in this State. All Defendants regularly conduct and
 18 solicit business in California, provide products and/or services by or to persons here, and derive
 19 substantial revenue from the same. All Defendants affirmatively and extensively engage with a
 20 significant percentage of this State’s residents through messages, notifications, recommendations,
 21 and other communications.

22 51. This Court also has personal jurisdiction over Defendants because they committed
 23 the acts complained of herein in this State and District and, in some cases, caused injury to persons
 24 located in this State and District.

25 52. Venue is proper in this multidistrict litigation for one or more of the following
 26 reasons: (1) at least one Defendant is headquartered and subject to personal jurisdiction in this
 27 District and all Defendants are residents of this State; (2) a substantial part of the events and
 28 omissions giving rise to Plaintiffs’ causes of action occurred in this District; (3) venue is proper in

1 the transferor court in each constituent case; and/or (4) venue is proper in this District for pretrial
 2 purposes pursuant to 28 U.S.C. § 1407 and the October 6, 2022 Transfer Order of the Judicial Panel
 3 on Multidistrict Litigation.

4 53. Declaratory relief is proper under 28 U.S.C. §§ 2201 and 2202.

5 **IV. FACTUAL ALLEGATIONS**

6 **A. GENERAL FACTUAL ALLEGATIONS APPLICABLE TO ALL
7 DEFENDANTS**

8 **1. Defendants have targeted children as a core market.**

9 54. Each Defendant has designed, engineered, marketed, and operated its products to
 10 maximize the number of children who download and use them compulsively. Children are more
 11 vulnerable users and have more free time on their hands than their adult counterparts. Because
 12 children use Defendants' products more, they see more ads, and as a result generate more ad
 13 revenue for Defendants. Young users also generate a trove of data about their preferences, habits,
 14 and behaviors. That information is Defendants' most valuable commodity. Defendants mine and
 15 commodify that data, including by selling to advertisers the ability to reach incredibly narrow
 16 tranches of the population, including children. Each Defendant placed its app(s) into the stream of
 17 commerce and generated revenues through the distribution of those apps at the expense of the
 18 consuming public and Plaintiffs.

19 55. This exploitation of children, including each of the individual Plaintiffs in these
 20 actions, has become central to Defendants' profitability. Like the cigarette industry a generation
 21 earlier, Defendants understand that a child user today becomes an adult user tomorrow.¹⁷ Indeed,
 22 Defendants' insatiable appetite for growth has created a need for younger and younger users.
 23 Defendants' wrongfully acquired knowledge of their childhood userbase has allowed them to
 24 develop product designs to target elementary school-age children, who are uniquely vulnerable.

25 ¹⁷ Haugen_00006240 ("There are many lines of evidence for a substantial 'ratchet' effect in the
 26 growth of social apps: once you get a user on your app it's hard to lose them. More precisely: the
 27 adoption of an app at a given point in time depends not just on the features of that app today, but
 28 is [sic] also depends on the *previous* adoption of that app."); *id.* at Haugen_00006241 (noting
 that, because of sunk costs and network effect, users will "stick with [an app] even if the relative
 quality declines.").

1 Like Joe Camel of old, Defendants' recent attempts to capture pre-adolescent audiences include
 2 "kid versions" of apps that are "designed to fuel [kids'] interest in the grown-up version."¹⁸

3 56. Recognizing the vulnerability of children under 13, particularly in the Internet age,
 4 Congress enacted the Children's Online Privacy Protection Act ("COPPA") in 1999.¹⁹ COPPA
 5 regulates the conditions under which Defendants can collect, use, or disclose the personal
 6 information of children under 13. Under COPPA, developers of apps and websites that are directed
 7 to or known to be used by children under 13 cannot lawfully obtain the individually identifiable
 8 information of such children without first obtaining verifiable consent from their parents.²⁰ Even
 9 apart from COPPA, it is well established under the law that children lack the legal or mental
 10 capacity to make informed decisions about their own well-being.

11 57. COPPA was enacted precisely because Congress recognized that children under age
 12 13 are particularly vulnerable to being taken advantage of by unscrupulous website operators. As a
 13 June 1998 report by the FTC observed, "[t]he immediacy and ease with which personal information
 14 can be collected from children online, combined with the limited capacity of children to understand
 15 fully the potentially serious safety and privacy implications of providing that information, have
 16 created deep concerns about current information practices involving children online."²¹ The same

20
 21 ¹⁸ Leonard Sax, *Is TikTok Dangerous for Teens?*, Inst. Fam. Stud. (Mar. 29, 2022),
<https://ifstudies.org/blog/is-tiktok-dangerous-for-teens->.

22 ¹⁹ See 15 U.S.C. §§ 6501-6506.

23 ²⁰ The FTC recently clarified that acceptable methods for obtaining verifiable parent consent
 24 include: (a) providing a form for parents to sign and return; (b) requiring the use of a credit/card
 25 online payment that provides notification of each transaction; (c) connecting to trained personnel
 26 via video conference; (d) calling a staffed toll-free number; (e) asking knowledge-based
 27 questions; or (f) verifying a photo-ID from the parent compared to a second photo using facial
 28 recognition technology. Federal Trade Commission, Complying with COPPA: Frequently Asked
[Questions, July 2020, https://www.ftc.gov/business-guidance/resources/complying-coppa-frequently-asked-questions.](https://www.ftc.gov/business-guidance/resources/complying-coppa-frequently-asked-questions)

²¹ *Privacy Online: A Report to Congress*, Federal Trade Commission (1998) at 13.
[https://www.ftc.gov/sites/default/files/documents/reports/privacy-online-report-congress/priv-23a.pdf.](https://www.ftc.gov/sites/default/files/documents/reports/privacy-online-report-congress/priv-23a.pdf)

1 report observed that children under the age of 13 “generally lack the developmental capacity and
 2 judgment to give meaningful consent to the release of personal information to a third party.”²²

3 58. Contemporaneous testimony by the Chairman of the FTC observed that the Internet
 4 “make[s] it easy for children to disclose personal information to the general public without their
 5 parents’ awareness or consent. Such public disclosures raise safety concerns.”²³ Further, “the
 6 practice of collecting personal identifying information directly from children without parental
 7 consent is clearly troubling, since it teaches children to reveal their personal information to
 8 strangers and circumvents parental control over their family’s information.”²⁴

9 59. None of the Defendants conduct proper age verification or authentication. Instead,
 10 each Defendant leaves it to users to self-report their age. This unenforceable and facially inadequate
 11 system allows children under 13 to easily create accounts on Defendants’ apps.

12 60. This is particularly egregious for two reasons. *First*, Defendants have long been on
 13 notice of the problem. For instance, in May 2011, Consumer Reports reported the “troubling news”
 14 that 7.5 million children under 13 were on Facebook.²⁵ *Second*, given that Defendants have
 15 developed and utilized age-estimation algorithms for the purpose of selling user data and targeted
 16 advertisements, Defendants could readily use these algorithms to prevent children under 13 from
 17 accessing their products, but choose not to do so. Instead, they have turned a blind eye to collecting
 18 children’s data in violation of COPPA.

19 61. Defendants have done this because children are financially lucrative, particularly
 20 when they are addicted to Defendants’ apps.

21
 22 ²² *Privacy Online: A Report to Congress*, Federal Trade Commission (1998) at 13.
 23 <https://www.ftc.gov/sites/default/files/documents/reports/privacy-online-report-congress/priv-23a.pdf>.

24 ²³ S. 2326, Children’s Online Privacy Protection Act of 1998: Hearing Before the U.S. Sen.
 25 Subcom. On Communications, Comm. On Commerce, Science, and Transportation, 105th Cong.
 11 (1998) (statement of Robert Pitofsky, Chairman, Federal Trade Commission).

26 ²⁴ S. 2326, Children’s Online Privacy Protection Act of 1998: Hearing Before the U.S. Sen.
 27 Subcom. On Communications, Comm. On Commerce, Science, and Transportation, 105th Cong.
 28 11 (1998) (statement of Robert Pitofsky, Chairman, Federal Trade Commission).

²⁵ Emily Bazelon, *Why Facebook is After Your Kids*, N.Y. Times (Oct. 12, 2011), <https://www.nytimes.com/2011/10/16/magazine/why-facebook-is-after-your-kids.html>.

1 **2. Children are uniquely susceptible to harm from Defendants' apps.**

2 62. Young people are not only Defendants' most lucrative market, but are also those
3 most vulnerable to harms resulting from Defendants' products.

4 63. “Everyone innately responds to social approval.”²⁶ “[B]ut some demographics, in
5 particular teenagers, are more vulnerable to it than others.”²⁷ Unlike adults, who “tend to have a
6 fixed sense of self that relies less on feedback from peers,”²⁸ adolescents are in a “period of personal
7 and social identity formation” that “is now reliant on social media.”²⁹

8 64. To understand the impact Defendants' apps have on young people, it is helpful to
9 understand some basics about the human brain.

10 65. The frontal lobes of the brain—particularly the prefrontal cortex—control higher-
11 order cognitive functions. This region of the brain is central to planning and executive decision-
12 making, including the evaluation of risk and reward. It also helps inhibit impulsive actions and
13 “regulate emotional responses to social rewards.”³⁰

20 ²⁶ Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int'l (July 27, 2016),
21 <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

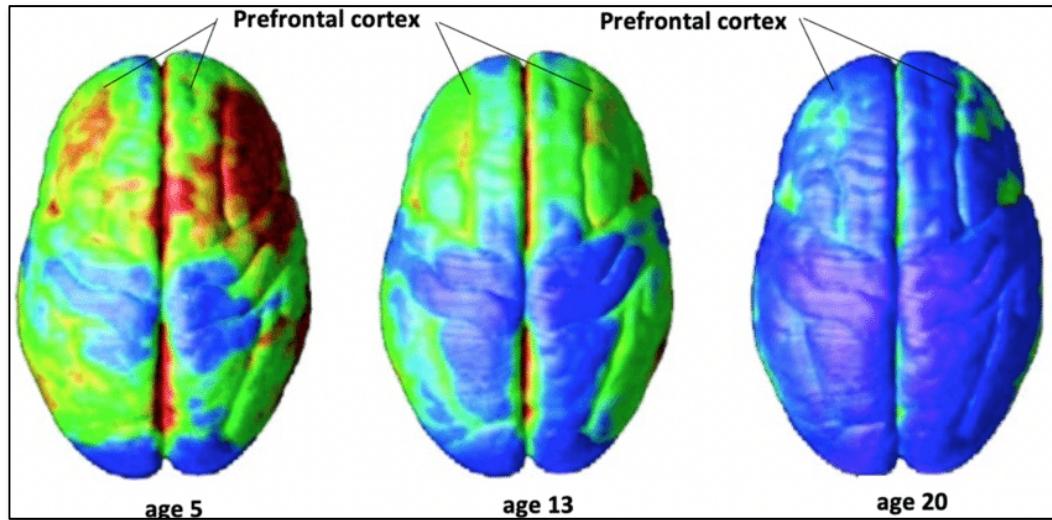
22 ²⁷ Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int'l (July 27, 2016),
23 <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

24 ²⁸ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n
(Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

25 ²⁹ Betul Keles et al., *A systematic review: the influence of social media on depression, anxiety and*
26 *psychological distress in adolescents*, Int'l J. Adolescence & Youth (202) 25:1, 79–93 (Mar. 3,
27 2019),
[https://www.researchgate.net/publication/331947590 A systematic review the influence of so-
cial media on depression anxiety and psychological distress in adolescents](https://www.researchgate.net/publication/331947590_A_systematic_review_the_influence_of_social_media_on_depression_anxiety_and_psychological_distress_in_adolescents).

28 ³⁰ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n
(Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

1 66. Children and adolescents are especially vulnerable to developing harmful behaviors
 2 because their prefrontal cortex is not fully developed.³¹ Indeed, it is one of the last regions of the
 3 brain to mature.³² In the images below, the blue color depicts brain development.³³



13 67. Because of the immaturity of their prefrontal cortex, children have less impulse
 14 control, and less ability to regulate their responses to social rewards, than adults.

15 68. Beginning around the age of 10, the brain also begins to change in important ways.
 16 Specifically, the receptors for dopamine multiply in the subcortical region of the brain.³⁴ Dopamine
 17 is a neurotransmitter that is central to the brain's reward system.³⁵

18 69. During this developmental phase, the brain learns to seek out stimuli (e.g.,
 19 Instagram) that result in a reward (e.g., likes) and cause dopamine to flood the brain's reward

20 ³¹ Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated
 21 mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, BMC
 22 Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

23 ³² Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated
 24 mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, BMC
 25 Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

26 ³³ Heiner Boettger. & Deborah Koeltezsch. . *The fear factor: Xenoglossophobia or how to
 27 overcome the anxiety of speaking foreign languages*, 4, Training Language and Culture, 43-55
 28 (June 2020), https://www.researchgate.net/figure/Development-of-the-cortex-functions-The-PFC_fig1_342501707.

³⁴ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

³⁵ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

1 pathways. Each time this happens, associations between the stimulus and the reward become
 2 stronger.³⁶ Notably, once the brain has learned to make this association, dopaminergic neurons
 3 “shift their … activation from the time of reward delivery to the time of presentation of [a]
 4 predictive cue.”³⁷ In other words, the anticipation of a reward can itself trigger a dopamine rush.

5 70. As New York University professor and social psychologist Adam Alter has
 6 explained, product features such as “Likes” give users a dopamine hit similar to drugs and alcohol:
 7 “The minute you take a drug, drink alcohol, smoke a cigarette . . . when you get a like on social
 8 media, all of those experiences produce dopamine, which is a chemical that’s associated with
 9 pleasure. When someone likes an Instagram post, or any content that you share, it’s a little bit like
 10 taking a drug. As far as your brain is concerned, it’s a very similar experience.”³⁸

11 71. When the release of dopamine in young brains is manipulated by Defendants’
 12 products, it interferes with the brain’s development and can have long-term impacts on an
 13 individual’s memory, affective processing, reasoning, planning, attention, inhibitory control, and
 14 risk-reward calibration.

15 72. Given their limited capacity to self-regulate and their vulnerability to peer pressure,
 16 children (including teens) are at greater risk of developing a mental disorder from use of
 17 Defendants’ products.³⁹ Children are more susceptible than adults to feelings of withdrawal when
 18 a dopamine hit wears off. Depending on the intensity, delivery, and timing of the stimulus, and the
 19

20 ³⁶ See Bryo Adinoff, *Neurobiologic processes in drug reward and addiction*, 12(6) Harv. Rev.
 Psychiatry 305-320 (2004), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1920543/>.

21 ³⁷ Luisa Speranza et al., Dopamine: The Neuromodulator of Long-Term Synaptic Plasticity,
 Reward and Movement Control, 10 Cells 735 (2021),
<https://pubmed.ncbi.nlm.nih.gov/33810328/>.

22 ³⁸ Eames Yates, *What happens to your brain when you get a like on Instagram*, Business Insider
 (Mar. 25, 2017), <https://www.businessinsider.com/what-happens-to-your-brain-like-instagram-dopamine-2017-3>; see also Sören Krach et al., *The rewarding nature of social interactions*, 4(22)
 Frontiers in Behav. Neuro., (28 May 2010),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2889690/pdf/fnbeh-04-00022.pdf>; Julian
 Morgans, *The Secret Ways Social Media Is Built for Addiction*, Vice (May 17, 2017),
<https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.

23 ³⁹ Betul Keles et al., *A systematic review: the influence of social media on depression, anxiety and*
psychological distress in adolescents, Int’l J. Adolescence & Youth (202) 25:1, 79–93 (Mar. 3,
 2019),https://www.researchgate.net/publication/331947590_A_systematic_review_the_influence_of_social_media_on_depression_anxiety_and_psychological_distress_in_adolescents

1 severity of its withdrawal, these feelings can include anxiety, dysphoria, and irritability.⁴⁰ Children
 2 also are more likely to engage in compulsive behaviors to avoid these symptoms, due to their
 3 limited capacity for self-regulation, relative lack of impulse control, and struggle to delay
 4 gratification.

5 73. This can lead to a vicious cycle. Repeated spikes of dopamine over time may cause
 6 a child to build up a tolerance for the stimulus. In this process of “neuroadaptation,” the production
 7 of dopamine and the sensitivity of dopamine receptors are both reduced.⁴¹ As a consequence, the
 8 child requires more and more of the stimulus to feel the same reward. Worse, this cycle can cause
 9 decreases in activity in the prefrontal cortex, leading to further impairments of decision-making
 10 and executive functioning.⁴²

11 74. As described further below, each Defendant deliberately designed, engineered, and
 12 implemented dangerous features in their apps that present social-reward and other stimuli in a
 13 manner that has caused Plaintiffs and many scores of others to compulsively seek out those stimuli,
 14 develop negative symptoms when they were withdrawn, and exhibit reduced impulse control and
 15 emotional regulation.

16 75. In short, children find it particularly difficult to exercise the self-control required to
 17 regulate their use of Defendants’ platforms, given the stimuli and rewards embedded in those apps,
 18 and as a foreseeable consequence tend to engage in addictive and compulsive use.⁴³

21
 22 ⁴⁰ George Koob, and Nora Volkow. *Neurobiology of addiction: a neurocircuitry analysis*, 3 (8) Lancet Psychiatry 760-773 (2016),
 23 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6135092/pdf/nihms-985499.pdf>.

24 ⁴¹ George Koob, and Nora Volkow. *Neurobiology of addiction: a neurocircuitry analysis*, 3 (8) Lancet Psychiatry 760-773 (2016),
 25 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6135092/pdf/nihms-985499.pdf>.

26 ⁴² George Koob & Nora Volkow. *Neurobiology of addiction: a neurocircuitry analysis*, 3 (8) Lancet Psychiatry 760-773 (2016),
 27 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6135092/pdf/nihms-985499.pdf>.

28 ⁴³ Fulton Crews et al., *Adolescent cortical development: a critical period of vulnerability for addiction*, 86 Pharmacology, Biochemistry and Behavior 189-199 (2007),
<https://www.sciencedirect.com/science/article/pii/S009130570600400X>.

1 **3. Defendants designed their apps to attract and addict youth.**

2 76. Instagram, Facebook, TikTok, Snap, and YouTube employ many similar defective
 3 and dangerous product features that are engineered to induce more use by young people—creating
 4 an unreasonable risk of compulsive use and addiction.⁴⁴ For instance, all five apps harvest user data
 5 and use this information to generate and push algorithmically tailored “feeds” of photos and videos.
 6 And all five include methods through which approval can be expressed and received, such as likes,
 7 hearts, comments, shares, or reposts. This section explains the psychological and social
 8 mechanisms exploited by these and other product defects.

9 77. *First*, Defendants’ apps are designed and engineered to methodically, but
 10 unpredictably, space out dopamine-triggering rewards with dopamine gaps. The unpredictability is
 11 key because, paradoxically, intermittent variable rewards (or “IVR”) create stronger associations
 12 (conditioned changes in the neural pathway) than fixed rewards. Products that use this technique
 13 are highly addictive or habit forming.

14 78. IVR is based on insights from behavioral science dating back to research in the
 15 1950s by Harvard psychologist B. F. Skinner. Skinner found that laboratory mice respond most
 16 voraciously to unpredictable rewards. In one famous experiment, mice that pushed a lever received
 17 a variable reward (a small treat, a large treat, or no treat at all). Compared with mice who received
 18 the same treat every time, the mice who received only occasional rewards were more likely to
 19 exhibit addictive behaviors such as pressing the lever compulsively. This exploitation of neural
 20 circuitry is exactly how addictive products like slot machines keep users coming back.

21 79. The IVR aspect of slot machines is limited by the fact that they deliver rewards in a
 22 randomized manner, irrespective of the person pulling the lever. By contrast, Defendants’ apps are
 23 designed to purposely withhold and release rewards on a schedule its algorithms have determined
 24 is optimal to heighten a specific user’s craving and keep them using the product. For example,

26 27 28 ⁴⁴ See Kevin Hurler, *For Sites Like Instagram and Twitter, Imitation Is the Only Form of Flattery*,
 Gizmodo (Aug. 16, 2022), <https://gizmodo.com/instagram-tiktok-snapchat-facebook-meta-1849395419> (“Over the last decade, some of the most popular social media apps have blatantly
 ripped off features from some of the other most popular social media apps, in a tech version of
 Capture the Flag where the only losers are the users who are forced to persist through this cat-and-mouse game.”).

1 TikTok will at times delay a video it knows a user will like until the moment before it anticipates
 2 the user would otherwise log out. Instagram's notification algorithm will at times determine that a
 3 particular user's engagement will be maximized if the app withholds "Likes" on their posts and
 4 then later delivers them in a large burst of notifications.

5 80. Defendants' use of IVR is particularly effective on and dangerous for adolescents,
 6 given the incomplete aspects of their brain maturation described above—including lack of impulse
 7 control and reduced executive functions.

8 81. There are multiple types of dopamine neurons that are connected with distinct brain
 9 networks and have distinct roles in motivational control. Apart from the dopamine reward loop
 10 triggered by positive feedback, other dopamine neurons are impacted by salient but non-rewarding
 11 stimuli and even painful-aversive stimuli.⁴⁵ Defendants' apps capitalize on this by algorithmically
 12 ranking photos and videos that "engage" users because they present a dopamine pay-off, including
 13 novel, aversive, and alarming images.

14 82. *Second*, there are multiple types of dopamine neurons that are connected with
 15 distinct brain networks and have distinct roles in motivational control. Apart from the dopamine
 16 reward loop triggered by positive feedback, other dopamine neurons are impacted by salient but
 17 non-rewarding stimuli and even painful-aversive stimuli.⁴⁶ Defendants' apps capitalize on this by
 18 algorithmically ranking photos and videos that "engage" users because they present a dopamine
 19 pay-off, including novel, aversive, and alarming images.

20 83. *Third*, dangerous and defective features in Defendants' apps manipulate young users
 21 through their exploitation of "reciprocity"—the psychological phenomenon by which people
 22 respond to positive or hostile actions in kind. Reciprocity means that people respond in a friendly
 23 manner to friendly actions, and with negative retaliation to hostile actions.⁴⁷ Phillip Kunz best
 24

25 ⁴⁵ J.P.H. Verharen, Yichen Zhu, and Stephan Lammel *Aversion hot spots in the dopamine system*
 26 64 *Neurobiology* 46-52 (March 5, 2020) <https://doi.org/10.1016/j.conb.2020.02.002>.

27 ⁴⁶ J.P.H. Verharen, Yichen Zhu, and Stephan Lammel *Aversion hot spots in the dopamine system*
 28 64 *Neurobiology* 46-52 (March 5, 2020) <https://doi.org/10.1016/j.conb.2020.02.002>.

29 ⁴⁷ Ernst Fehr & Simon Gächter, *Fairness and Retaliation: The Economics of Reciprocity*, 14(3) *J.*
 Econ. Persps. 159–81 (2000), <https://www.researchgate.net/profile/Ernst-Fehr->

1 illustrated the powerful effect of reciprocity through an experiment using holiday cards. Kunz sent
 2 cards to a group of complete strangers, including pictures of his family and a brief note.⁴⁸ People
 3 whom he had never met or communicated with before reciprocated, flooding him with holiday
 4 cards in return.⁴⁹ Most of the responses did not even ask Mr. Kunz who he was—they simply
 5 responded to his initial gesture with a reciprocal action.⁵⁰

6 84. Products like Instagram and Snapchat exploit reciprocity by, for example,
 7 automatically telling a sender when their message is seen, instead of letting the recipient avoid
 8 disclosing whether it was viewed. Consequently, the recipient feels more obligated to respond
 9 immediately, keeping users on the product.⁵¹

10 85. *Fourth*, Defendants' apps addict young users by preying on their already-heightened
 11 need for social comparison and interpersonal feedback-seeking.⁵² Because of their relatively
 12 undeveloped prefrontal cortex, young people are already predisposed to status anxieties, beauty
 13 comparisons, and a desire for social validation.⁵³ Defendants' apps encourage repetitive usage by
 14 dramatically amplifying those insecurities.

15

16

17

18 [2/publication/23756527_Fairness_and_Retaliation_The_Economics_of_Reciprocity/links/5eb024e945851592d6b87d3b/Fairness-and-Retaliation-The-Economics-of-Reciprocity.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC23756527/).

19 ⁴⁸ Phillip R. Kunz & Michael Woolcott, *Season's Greetings: From my status to yours*, 5(3) Soc.
 20 Sci. Rsch. 269–78 (Sept. 1976), [https://doi.org/10.1016/0049-089X\(76\)90003-X](https://doi.org/10.1016/0049-089X(76)90003-X).

21 ⁴⁹ Phillip R. Kunz & Michael Woolcott, *Season's Greetings: From my status to yours*, 5(3) Soc.
 22 Sci. Rsch. 269–78 (Sept. 1976), [https://doi.org/10.1016/0049-089X\(76\)90003-X](https://doi.org/10.1016/0049-089X(76)90003-X).

23 ⁵⁰ Phillip R. Kunz & Michael Woolcott, *Season's Greetings: From my status to yours*, 5(3) Soc.
 24 Sci. Rsch. 269–78 (Sept. 1976), [https://doi.org/10.1016/0049-089X\(76\)90003-X](https://doi.org/10.1016/0049-089X(76)90003-X).

25 ⁵¹ Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int'l (July 27, 2016),
 26 <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

27 ⁵² Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and
 28 Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*, 43
 J. Abnormal Child Psych. 1427–38 (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/>.

29 ⁵³ Susan Harter, *The Construction of the Self: Developmental and Sociocultural Foundations*
 30 (Guilford Press, 2d ed., 2012) (explaining how, as adolescents move toward developing cohesive
 31 self-identities, they typically engage in greater levels of social comparison and interpersonal
 32 feedback-seeking).

1 86. Mitch Prinstein, Chief Science Officer for the American Psychology Association,
 2 has explained that online and real-world interactions are fundamentally different.⁵⁴ For example, in
 3 the real world, no public ledger tallies the number of consecutive days friends speak. Similarly,
 4 “[a]fter you walk away from a regular conversation, you don’t know if the other person liked it, or
 5 if anyone else liked it.”⁵⁵ By contrast, a product defect like the “Snap Streak” creates exactly such
 6 artificial forms of feedback.⁵⁶ On Defendants’ apps, friends and even complete strangers can
 7 publicly deliver (or withhold) dopamine-laced likes, comments, views, and/or follows.⁵⁷

8 87. The “Like” feature on Facebook, Instagram, TikTok, and YouTube, or other
 9 comparable features common to Defendants’ products, haves an especially powerful effect on
 10 teenagers and can neurologically alter their perception of online posts. Researchers at UCLA used
 11 magnetic resonance imaging to study the brains of teenage girls as they used Instagram. They found
 12 that girls’ perception of a photo changed depending on the number of likes it had generated.⁵⁸ That
 13 an image was highly liked—regardless of its content—instinctively caused the girls to prefer it. As
 14 the researchers put it, teens react to perceived “endorsements,” even if likes on social media are
 15 often fake, purchased, or manufactured.⁵⁹

16 88. The design of Defendants’ apps also encourages unhealthy, negative social
 17 comparisons, which in turn cause body image issues and related mental and physical disorders.

19 ⁵⁴ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n
 20 (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

21 ⁵⁵ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n
 22 (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

23 ⁵⁶ A “Snap Streak” is designed to measure a user’s Snapchat activity with another user. Two users
 24 achieve a “Snap Streak” when they exchange at least one Snap in three consecutive 24-hour
 25 periods. When successively longer “Streaks” are achieved, users are rewarded with varying tiers
 26 of emojis. See *infra* p. 156.

27 ⁵⁷ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n
 28 (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

29 ⁵⁸ Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on*
 30 *Neural and Behavioral Responses to Social Media*, 27(7) Psychol Sci. 1027
 31 (2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>

32 ⁵⁹ Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on*
 33 *Neural and Behavioral Responses to Social Media*, 27(7) Psychol Sci. 1027 (2016),
 34 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>; see also Stuart Wolpert, *The teenage*
 35 *brain on social media*, UCLA Newsroom (May 31, 2016),
<https://newsroom.ucla.edu/releases/the-teenage-brain-on-social-media>.

Given adolescents' naturally vacillating levels of self-esteem, they are already predisposed to comparing "upward" to celebrities, influencers, and peers they perceive as more popular.⁶⁰ Defendants' apps turbocharge this phenomenon. On Defendants' apps, users disproportionately post "idealized" content,⁶¹ misrepresenting their lives. That is made worse by appearance-altering filters built into Defendants' apps, which underscore conventional (and often racially biased) standards of beauty, by allowing users to remove blemishes, make bodies and faces appear thinner, and lighten skin-tone. Defendants' apps provide a continuous stream of these filtered and fake appearances and experiences.⁶² That encourages harmful body image comparisons by adolescents, who begin to negatively perceive their own appearance and believe their bodies, and indeed their lives, are comparatively worse.⁶³

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⁶⁰ Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*, 43 J. Abnormal Child Psych. 1427–38 (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/> ("Upward comparison occurs when people compare themselves to someone they perceive to be superior[], whereas a downward comparison is defined by making a comparison with someone perceived to be inferior[.]"); Jin-Liang wang, Hai-Zhen Wang, James Gaskin, & Skyler Hawk, *The Mediating Roles of Upward Social Comparison and Self-esteem and the Moderating Role of Social Comparison Orientation in the Association between Social Networking Site Usage and Subjective Well-Being*, Frontiers in Psychology (May 2017), [https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00771/full#:~:text=Social%20comparison%20can%20be%20upward,inferior%20\(Wills%2C%201981\).](https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00771/full#:~:text=Social%20comparison%20can%20be%20upward,inferior%20(Wills%2C%201981).)

⁶¹ Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*, 43 J. Abnormal Child Psych. 1427–38 (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/>;

⁶² Jin Kyun Lee, *The Effects of Social Comparison Orientation on Psychological Well-Being in Social Networking Sites: Serial Mediation of Perceived Social Support and Self-Esteem*, Current Psychology (2020), <https://link.springer.com/content/pdf/10.1007/s12144-020-01114-3.pdf>.

⁶³. Jin Kyun Lee, *The Effects of Social Comparison Orientation on Psychological Well-Being in Social Networking Sites: Serial Mediation of Perceived Social Support and Self-Esteem*, Current Psychology (2020), <https://link.springer.com/content/pdf/10.1007/s12144-020-01114-3.pdf>. See also Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated mediation model of problematic Facebook use, age, neuroticism, and extraversion at 3*, BMC Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7> (explaining that youth are particularly vulnerable because they "use social networking sites for construing their identity, developing a sense of belonging, and for comparison with others"); Jin Lee, *The effects of social comparison orientation on psychological well-being in social networking sites: serial mediation of perceived social support and self-esteem*, 41 Current Psychology 6247-6259 (2022), <https://doi.org/10.1007/s12144-020-01114-3>.

1 89. *Fifth*, Defendants' respective product features work in combination to create and
 2 maintain a user's "flow-state": a hyper-focused, hypnotic state, where bodily movements are
 3 reflexive and the user is totally immersed in smoothly rotating through aspects of the social media
 4 product.⁶⁴

5 90. As discussed in more detail below, defective features like the ones just described
 6 can cause or contribute to (and, with respect to Plaintiffs, have caused and contributed to) the
 7 following injuries in young people: eating and feeding disorders; depressive disorders; anxiety
 8 disorders; sleep disorders; trauma- and stressor-related disorders; obsessive-compulsive and related
 9 disorders; disruptive, impulse-control, and conduct disorders; suicidal ideation; self-harm; and
 10 suicide.⁶⁵

11 **4. Millions of kids use Defendants' products compulsively.**

12 91. Defendants have been staggeringly successful in their efforts to attract young users
 13 to their apps. In 2021, 32% of 7- to 9-year-olds,⁶⁶ 49% of 10- to 12-year-olds,⁶⁷ and 90% of 13- to
 14 17-year-olds in the United States used social media.⁶⁸ A majority of U.S. teens use Instagram,
 15 TikTok, Snapchat, and/or YouTube. Thirty-two percent say they "wouldn't want to live without"

18 ⁶⁴ See e.g., *What Makes TikTok so Addictive?: An Analysis of the Mechanisms Underlying the*
 19 *World's Latest Social Media Craze*, Brown Undergraduate J. of Pub. Health
 20 (2021), <https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/>(describing how IVR and
 infinite scrolling may induce a flow state in users).

21 ⁶⁵ E.g., Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated*
mediation model of problematic Facebook use, age, neuroticism, and extraversion at 3, BMC
 Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7> (collecting sources).

22 ⁶⁶ *Sharing Too Soon? Children and Social Media Apps*, C.S. Mott Child's Hosp. Univ. Mich.
 Health (Oct. 18, 2021),
https://mottpoll.org/sites/default/files/documents/101821_SocialMedia.pdf.

23 ⁶⁷ *Sharing Too Soon? Children and Social Media Apps*, C.S. Mott Child's Hosp. Univ. Mich.
 Health (Oct. 18, 2021),
https://mottpoll.org/sites/default/files/documents/101821_SocialMedia.pdf.

24 ⁶⁸ *Social Media and Teens*, Am. Acad. Child & Adolescent Psychiatry (Mar. 2018),
https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Social-Media-and-Teens-100.aspx; see also Victoria Rideout et al., *The Common Sense Census: Media Use by Tweens and Teens, 2021* at 5, Common Sense Media (2022),
https://www.commonSenseMedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

1 YouTube, while 20% said the same about Snapchat, and 13% said the same about both TikTok and
 2 Instagram.⁶⁹

3 92. U.S. teenagers who use Defendants' products are likely to use them every day.
 4 Sixty-two percent of U.S. children ages 13-18 use social media daily.⁷⁰ And daily use often means
 5 constant use. About one-in-five U.S. teens visit or use YouTube "almost constantly," while about
 6 one-in-six report comparable usage of Instagram.⁷¹ Nearly half of U.S. teens use TikTok at least
 7 "several times a day."⁷² In one study, U.S. teenage users reported checking Snapchat thirty times a
 8 day on average.⁷³

9 93. Teenagers know they are addicted to Defendants' products: 36% admit they spend
 10 too much time on social media.⁷⁴ Yet they can't stop. Of the teens who use at least one social media
 11 product "almost constantly," 71% say quitting would be hard. Nearly one-third of this population—
 12 and nearly one-in-five of *all* teens—say quitting would be "very hard."⁷⁵

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 16 ⁶⁹ Victoria Rideout et al., *Common Sense Census: Media use by tweens and teens, 2021* at 31,
 17 Common Sense Media (2022),
https://www.commonSenseMedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

18 ⁷⁰ Victoria Rideout et al., *Common Sense Census: Media use by tweens and teens, 2021* at 31,
 19 Common Sense Media (2022),
https://www.commonSenseMedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

20 ⁷¹ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
 21 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

22 ⁷² Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
 23 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

24 ⁷³ Erinn Murphy et al., *Taking Stock with Teens, Fall 2021* at 13, Piper Sandler (2021),
<https://tinyurl.com/89ct4p88>; see also Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

25 ⁷⁴ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
 26 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

27 ⁷⁵ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
 28 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

1 94. Notably, the more teens use Defendants' apps, the harder it is to quit. Teens who
 2 say they spend too much time on social media are almost twice as likely to say that giving up social
 3 media would be hard, compared to teens who see their social media usage as about right.⁷⁶

4 95. Despite using social media frequently, most young people don't particularly enjoy
 5 it. In 2021, only 27% of boys and 42% of girls ages 8-18 reported liking social media "a lot."⁷⁷
 6 Moreover, one survey found that young people think social media is the main reason youth mental
 7 health is getting worse.⁷⁸ About twice as many of the surveyed youth believed that social media is
 8 the main reason for declining mental health than the next likely cause, and over *seven times* more
 9 believed it to be the main cause rather than drugs and alcohol.⁷⁹

10 5. **Defendants' apps have created a youth mental health crisis.**

11 96. Nearly a decade of scientific and medical studies demonstrate that dangerous
 12 features engineered into Defendants' platforms—particularly when used multiple hours a day—
 13 can have a "detrimental effect on the psychological health of [their] users," including compulsive
 14 use, addiction, body dissatisfaction, anxiety, depression, and self-harming behaviors such as eating
 15 disorders.⁸⁰

16 97. Addiction and compulsive use of Defendants' products can entail a variety of
 17 behavioral problems including but not limited to: (1) a lessening of control, (2) persistent,

19 76 Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
 20 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

21 77 Victoria Rideout et al., *Common Sense Census: Media use by tweens and teens, 2021* at 34,
 22 Common Sense Media (2022), https://www.commonSenseMedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

23 78 Headspace (2018) *National youth mental health survey 2018*, National Youth Mental Health
 24 Foundation (2018), <https://headspace.org.au/assets/headspace-National-Youth-Mental-Health-Survey-2018.pdf>

25 79 Headspace National Youth Mental Health Survey 2018, National Youth Mental Health
 26 Foundation (2018), <https://headspace.org.au/assets/headspace-National-Youth-Mental-Health-Survey-2018.pdf> (surveying more than 4,000 Australians ages 12-25).

27 80 See, e.g., Fazida Karim et al., *Social Media Use and Its Connection to Mental Health: A Systemic Review*, Cureus Volume 12(6) (June 15, 2020), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7364393/>; Alexandra R. Lonergan et al., *Protect me from my selfie: Examining the association between photo-based social media behaviors and self-reported eating disorders in adolescence*, Int. J. of Eating Disorders 756 (Apr. 7, 2020), <https://onlinelibrary.wiley.com/doi/epdf/10.1002/eat.23256>.

1 compulsive seeking out of access to the product, (3) using the product more, and for longer, than
 2 intended, (4) trying to cut down on use but being unable to do so, (5) experiencing intense cravings
 3 or urges to use, (6) tolerance (needing more of the product to achieve the same desired effect), (7)
 4 developing withdrawal symptoms when not using the product, or when the product is taken away,
 5 (8) neglecting responsibilities at home, work, or school because of the intensity of usage, (9)
 6 continuing to use the product even when doing so interferes and causes problems with important
 7 family and social relationships, (10) giving up important or desirable social and recreational
 8 activities due to use, and (11) continuing to use despite the product causing significant harm to the
 9 user's physical and mental health.

10 98. Many of these injuries can be long-lasting, if not lifelong. For example, the long-
 11 term effects of eating disorders can include: (1) dermatological effects to the nails and hair;
 12 (2) gastrointestinal illnesses, such as gastroparesis or hypomotility of the colon; (3) impacts to the
 13 endocrine system, such as glycolic or metabolic conditions, bone loss, and hormonal conditions;
 14 (4) nervous system effects, such as gray matter brain loss or atrophy; (5) skeletal system effects,
 15 such as bone loss; (6) cardiovascular effects, such as structural heart damage, mitral valve prolapse,
 16 or fluid around the heart; and (7) fertility issues.⁸¹

17 99. Each Defendant has long been aware of this research, but chose to ignore or brush
 18 it off.⁸² For example, in 2018, Meta employees mocked it as "BS . . . pseudo science," [sic] and "a
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22 ⁸¹ See, e.g., Anorexia Nervosa, Cleveland Clinic
<https://my.clevelandclinic.org/health/diseases/9794-anorexia-nervosa#outlook--prognosis>;
 23 Bulimia Nervosa; Cleveland Clinic <https://my.clevelandclinic.org/health/diseases/9795-bulimia-nervosa#symptoms-and-causes>.

24 ⁸² In August 2019, a social psychologist, and leading expert on the effect that technology products
 25 have on the mental health of their users, wrote to Mr. Zuckerberg ahead of a meeting to note that
 26 a new study "point[ed] heavily to a connection, not just from correlational studies but from true
 27 experiments, which strongly indicate[d] causation, not just correlation" between Meta's products
 28 and harms to users' wellbeing. META3047MDL-003-00089107 at META3047MDL-003-
 000891078. In some cases, Meta was not only aware of research connecting its products to
 detrimental effects but actively sought to undermine it. See META3047MDL-003-00082165 at
 META3047MDL-003-00082165 (discussing methods to undermine research on addiction to
 apps).

1 bunch of people trying to get air time.”⁸³ Yet, as discussed at length below, Defendants conducted
 2 some of the research themselves—and then hid their unfavorable findings from the public.⁸⁴

3 100. Scientists have studied the impacts of the overuse of social media since at least 2008,
 4 with social media addiction recognized in literature around that time after a pervasive upsurge in
 5 Facebook use.⁸⁵ The *Bergen Social Media Addiction Scale* assesses social media addiction along
 6 six core elements: 1) salience (preoccupation with the activity), 2) mood modification (the behavior
 7 alters the emotional state), 3) tolerance (increasing activity is needed for the same mood-altering
 8 effects), 4) withdrawal (physical or psychological discomfort when the behavior is discontinued),
 9 5) conflict (ceasing other activities or social interaction to perform the behavior), and 6) relapse
 10 (resuming the behavior after attempting to control or discontinue it).⁸⁶

11 101. Beginning in at least 2014, researchers began demonstrating that addictive and
 12 compulsive use of Defendants’ apps leads to negative mental and physical outcomes for kids.

13 102. In 2014, a study of 10- to 12-year-old girls found that increased use of Facebook
 14 was linked with body image concerns, the idealization of thinness, and increased dieting.⁸⁷ (This
 15 study was sent to Mark Zuckerberg in 2018, in a letter signed by 118 public health advocates.)⁸⁸

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 17 ⁸³ META3047MDL-003-00082165.

18 ⁸⁴ See, e.g., Haugen_00016373 at Haugen_00016381 (“The best external research indicates that
 19 Facebook’s impact on people’s well-being is negative.”); Haugen_00016373 at
 20 Haugen_00016414 (Mar. 9, 2020 presentation stating “All problematic users were experiencing
 21 multiple life impacts,” including loss of productivity, sleep disruption, relationship impacts, and
 22 safety risks); Haugen_00005458 at Haugen_00005500 (Sept. 18, 2019 presentation containing a
 23 slide stating “But, We Make Body Image Issues Worse for 1 in 3 Teen Girls”).

24 ⁸⁵ Tim Davies & Pete Cranston, *Youth Work and Social Networking: Interim Report*, The
 25 National Youth Agency (May 2008),
https://www.researchgate.net/publication/233911484_Youth_Work_and_Social_Networking_Final_Report.

26 ⁸⁶ Cecilie Andreassen et al., *The relationship between addictive use of social media and video
 27 games and symptoms of psychiatric disorders: a large-scale cross-sectional study*, 30(2) *Psychol.
 28 of Addictive Behav.*, 252-262 (2016), <http://dx.doi.org/10.1037/adb0000160>.

29 ⁸⁷ Marika Tiggemann & Amy Slater, *NetTweens: The Internet and body image concerns in
 30 preteenage girls*, 34(5), *J. Early Adolesc.* 606-620 (June 2014),
<https://journals.sagepub.com/doi/epub/10.1177/0272431613501083>.

31 ⁸⁸ Campaign for a Commercial-Free Childhood, *Letter to Mark Zuckerberg Re: Facebook
 32 Messenger Kids* (Jan. 30, 2018), [https://fairplayforkids.org/wp-content/uploads/archive/devel-
 34 generate/gaw/FBMessengerKids.pdf](https://fairplayforkids.org/wp-content/uploads/archive/devel-

 33 generate/gaw/FBMessengerKids.pdf).

1 103. In 2016, a study demonstrated that young people who frequently use Defendants' apps are more likely to suffer sleep disturbances than their peers who use them infrequently.⁸⁹
 2 Defendants' products, driven by IVR algorithms, deprive users of sleep by sending push
 3 notifications and emails at night, prompting children to re-engage with the apps when they should
 4 be sleeping. Disturbed and insufficient sleep is associated with poor health outcomes,⁹⁰ including
 5 increased risk of major depression—by a factor of more than three—⁹¹ and future suicidal behavior
 6 in adolescents.⁹² The American Academy of Sleep Medicine has recommended that, in a 24-hour
 7 period, children aged 6–12 years should regularly sleep 9–12 hours and teenagers aged 13–18 years
 8 should sleep 8–10 hours.⁹³

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 104. In another 2016 study, 52% of girls said they use image filters every day, and 80%
 11 reported using an app to change their appearance before the age of 13.⁹⁴ In fact, 77% of girls
 12 reported trying to change or hide at least one part of their body before posting a photo of themselves,
 13 and 50% believe they did not look good enough without editing.⁹⁵

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 15 ⁸⁹ Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance Among Young Adults*, 85 Preventive Med. 36–41 (Apr. 2016),
 16 <https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>.

17 ⁹⁰ Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance Among Young Adults*, 85 Preventive Med. 36–41 (Apr. 2016),
 18 <https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>; National Institute of Mental Health. 2016. The teen brain: 6 things to know, available at <https://www.nimh.nih.gov/health/publications/the-teen-brain-still-under-construction/index.shtml>; R. Sather& A. Shelat, *Understanding the teen brain*, <https://www.urmc.rochester.edu/encyclopedia/content.aspx?ContentTypeID=1&ContentID=3051>.

19 ⁹¹ E. Roberts & H Doung, *The Prospective Association between Sleep Deprivation and Depression among Adolescents* Sleep, Volume 37, Issue 2, 1 Feb. 2014.

20 ⁹² X. Liu, D. Buysse, *Sleep and youth suicidal behavior: a neglected field*, Current Opinion in Psychiatry (May 2006).

21 ⁹³ S. Paruthi, L. Brooks, C. D'Ambrosio, et al, *Consensus statement of the American Academy of Sleep Medicine on the recommended amount of sleep for healthy children: methodology and discussion*, 12 J Clin Sleep Med 1549–61 (2016).

22 ⁹⁴ Anna Haines. *From “Instagram Face” to “Snapchat Dysmorphia”: How Beauty Filters Are Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021),
<https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

23 ⁹⁵ Anna Haines, *From “Instagram Face” to “Snapchat Dysmorphia”: How Beauty Filters Are Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021),
<https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

1 105. In 2017, British researchers asked 1,500 teens to rate how Instagram, Snapchat, and
 2 YouTube affected them on certain well-being measures, including anxiety, loneliness, body image,
 3 and sleep.⁹⁶ Teens rated all three platforms as having a negative impact on body image, “FOMO”
 4 (fear of missing out), and sleep. Teens also noted that Instagram and Snapchat had a negative impact
 5 on anxiety, depression, and loneliness.

6 106. In 2018, a *Journal of Social and Clinical Psychology* study examined a group of
 7 college students whose use of Instagram, Facebook, and Snapchat was limited to 10 minutes per
 8 day per platform. The study found that this limited-use group showed “significant reductions in
 9 loneliness and depression over three weeks” compared to a control group that used social media as
 10 usual.⁹⁷

11 107. In 2018, a systematic literature review of nine studies published in the *Indian*
 12 *Journal of Psychiatry* concluded that dangerous features in social networking platforms “contribute
 13 to increased exposure to and engagement in self-harm behavior, as users tend to emulate self-
 14 injurious behavior of others online, adopt self-injurious practices from self-harm videos, or are
 15 encouraged and acclaimed by others, thus normalizing self-injurious thoughts and behavior.”⁹⁸

16 108. A 2019 survey of American adolescents ages 12-14 found that a user’s displeasure
 17 with their body could be predicted based on their frequency of using social media (including
 18 Instagram and Facebook) and based on the extent to which they engaged in behaviors that adopt an
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22 ⁹⁶ Royal Society for Public Health, #StatusOfMind,
 23 <https://www.rspht.org.uk/static/uploaded/d125b27c-0b62-41c5-a2c0155a8887cd01.pdf>; see also
 24 Jonathan Haidt, *The Dangerous Experiment on Teen Girls*, The Atlantic (Nov. 21, 2021),
 25 available at <https://www.theatlantic.com/ideas/archive/2021/11/facebook-s-dangerous-experiment-teen-girls/620767/>.

26 ⁹⁷ Melissa G. Hunt et al., *No More FOMO: Limiting Social Media Decreases Loneliness and Depression*, 37 J. of Social & Clinical Psych. (Dec. 5, 2018),
<https://guilfordjournals.com/doi/epdf/10.1521/jscp.2018.37.10.751>.

27 ⁹⁸ Aksha Memon et al., *The role of online social networking on deliberate self-harm and suicidality in adolescents: a systematized review of literature*, 60(4) Indian J Psychiatry 384-392 (Oct-Dec 2018), http://10.4103/psychiatry.IndianJPschiatry_414_17.

1 observer's point-of-view (such as taking selfies or asking others to "rate one's looks"). This effect
 2 was more pronounced among girls than boys.⁹⁹

3 109. A third study in 2019 of more than 6500 American adolescents ranging in age from
 4 12 to 15 years old found that those who used social media for 3 hours or more per day were more
 5 likely to suffer from mental health problems such as anxiety and depression.¹⁰⁰ Notably, this
 6 association remained significant even *after* adjusting for demographics, past alcohol and marijuana
 7 use, and history of mental health problems.¹⁰¹

8 110. In 2020, a study of Australian adolescents found that investment in others' selfies
 9 (through likes and comments) was associated with greater odds of meeting criteria for
 10 clinical/subclinical bulimia nervosa, clinical/subclinical binge-eating disorder, night eating
 11 syndrome, and unspecified feeding and eating disorders.¹⁰²

12 111. In 2020, a longitudinal study investigated whether "Facebook Addiction Disorder"
 13 predicted suicide-related outcomes, and found that children and adolescents addicted to Facebook
 14 are more likely to engage in self-injurious behavior, such as cutting and suicide.¹⁰³

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 19 ⁹⁹ Ilyssa Salomon & Christia Spears Brown, *The Selfie Generation: Examining the Relationship*
 Between Social Media Use and Early Adolescent Body Image, *Journal of Early Adolescence*
 (Apr. 21, 2018), <https://journals.sagepub.com/doi/abs/10.1177/0272431618770809>.

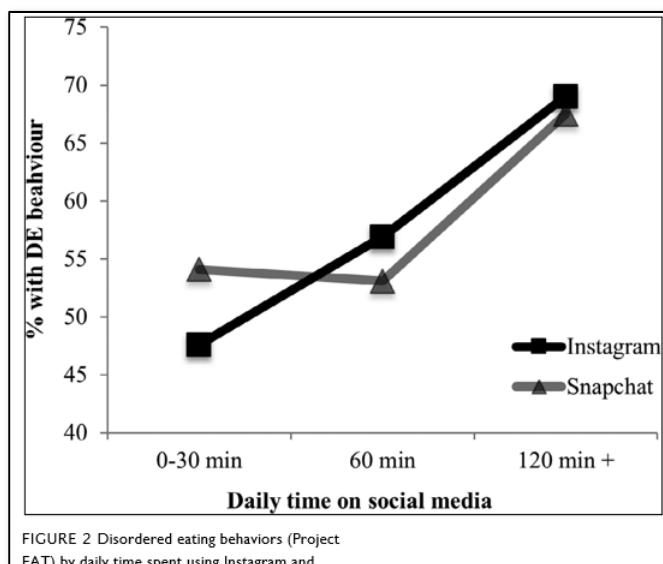
20 ¹⁰⁰ Kira Riehm et al., *Associations between time spent using social media and internalizing and*
 externalizing problems among US youth, 76(12) *JAMA Psychiatry* (2019),
<https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2749480>.

22 ¹⁰¹ Kira Riehm et al., *Associations between time spent using social media and internalizing and*
 externalizing problems among US youth, 76(12) *JAMA Psychiatry* (2019),
<https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2749480>.

24 ¹⁰² Alexandra R. Lonergan et al., *Protect Me from My Selfie: Examining the Association Between*
 Photo-Based Social Media Behaviors and Self-Reported Eating Disorders in Adolescence, *Int'l J.*
of Eating Disorders (Apr. 7, 2020), <https://onlinelibrary.wiley.com/doi/epdf/10.1002/eat.23256>.

26 ¹⁰³ See, e.g., Julia Brailovskaya et al., *Positive mental health mediates the relationship between*
 Facebook addiction disorder and suicide-related outcomes: a longitudinal approach, 00(00)
Cyberpsychology, Behavior, and Social Networking (2020),
<https://doi.org/10.1089/cyber.2019.0563>; Jean M. Twenge et al., *Increases in Depressive*
Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and
Links to Increased New Media Screen Time, 6 *Clinical Psych. Sci.* 3–17 (2018).

1 112. In 2020, clinical research demonstrated an observable link between youth social
 2 media use and disordered eating behavior.¹⁰⁴ The more time young girls spend using Defendants'
 3 products, the more likely they are to develop disordered eating behaviors.¹⁰⁵ And the more social
 4 media accounts adolescents have, the more disordered eating behaviors they exhibit.¹⁰⁶



15 113. Eating disorders often occur simultaneously with other self-harm behaviors such as
 16 cutting and are often associated with suicide.¹⁰⁷

17 114. In a 2021 study, female undergraduates were randomly shown thinspiration (low
 18 body mass index and not muscular), fitspiration (muscular and exercising), or neutral photos.¹⁰⁸

20
 21 ¹⁰⁴ Simon M. Wilksch *et al.*, *The relationship between social media use and disordered eating in young adolescents*, 53 Int'l J. Eating Disorders 96–106 (2020), <https://pubmed.ncbi.nlm.nih.gov/31797420/>.

22 ¹⁰⁵ Simon M. Wilksch *et al.*, *The relationship between social media use and disordered eating in young adolescents*, 53 Int'l J. Eating Disorders 96–106 (2020), <https://pubmed.ncbi.nlm.nih.gov/31797420/>.

24 ¹⁰⁶ Simon M. Wilksch *et al.*, *The relationship between social media use and disordered eating in young adolescents*, 53 Int'l J. Eating Disorders 96–106 (2020), <https://pubmed.ncbi.nlm.nih.gov/31797420/>.

26 ¹⁰⁷ Sonja Swanson *et al.*, *Prevalence and correlates of eating disorders in adolescents*, 68(7) Arch Gen Psychiatry 717-723 (2011), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5546800/>.

27 ¹⁰⁸ Karikarn Chansiri & Thipkanok Wongphothiphian, *The indirect effects of Instagram images on women's self-esteem: The moderating roles of BMI and perceived weight*, 00(0) New Media & Society 1-23 (2021), <https://journals.sagepub.com/doi/epub/10.1177/14614448211029975>.

1 Thinspiration and fitspiration images lowered self-esteem, even in those with a self-perceived
 2 healthy weight.¹⁰⁹

3 115. A 2022 study of Italian adolescent girls (12-17) and young women (18-28) found
 4 that Instagram's image editing and browsing features, combined with an emphasis on influencer
 5 interactions, promulgated unattainable body ideals that caused users to compare their bodies to
 6 those ideals.¹¹⁰ These trends were more prominent among adolescent girls, given their higher
 7 susceptibility to social pressures related to their bodies and given the physical changes associated
 8 with puberty.

9 116. In 2023, a study of magnetic resonance images demonstrated that compulsive use
 10 of Defendants' apps measurably alters children's brains.¹¹¹ This study measured fMRI responses
 11 in 12-year-old adolescents who used Facebook, Instagram, and Snapchat over a three-year period
 12 and found that neural patterns diverged. Specifically, those who engaged in high social media
 13 checking behavior "showed lower neural sensitivity to social anticipation" than those who engaged
 14 in low to moderate checking behavior.¹¹²

15 117. Defendants' apps have triggered depression, anxiety, eating disorders, self-harm,
 16 and suicidality among thousands of children, including the Plaintiffs in this action. Defendants have
 17 created nothing short of a national crisis.

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 19
 20
 21 ¹⁰⁹ Karikarn Chansiri & Thipkanok Wongphothiphan, *The indirect effects of Instagram images on*
 22 *women's self-esteem: The moderating roles of BMI and perceived weight*, 00(0) New Media &
 23 Society 1-23 (2021), <https://journals.sagepub.com/doi/epub/10.1177/1461448211029975>.

24 ¹¹⁰ Federica Pedalino and Anne-Linda Camerini, *Instagram use and body dissatisfaction: The*
 25 *mediating role of upward social comparison with peers and influencers among young females*,
 26 19(3) Int'l J of Environmental Research and Public Health 1543 (2022),
<https://www.mdpi.com/1660-4601/19/3/1543>.

27 ¹¹¹ Maria Maza et al., *Association of habitual checking behaviors on social media with*
 28 *longitudinal functional brain development*, JAMA Ped., (Jan. 3, 2023),
<https://jamanetwork.com/journals/jamapediatrics/article-abstract/2799812>.

29 ¹¹² Maria Maza et al., *Association of habitual checking behaviors on social media with*
 30 *longitudinal functional brain development*, JAMA Ped., (Jan. 3, 2023),
<https://jamanetwork.com/journals/jamapediatrics/article-abstract/2799812>.

1 118. From 2009 to 2019, the rate of high school students who reported persistent sadness
 2 or hopelessness increased by 40% (to one out of every three kids).¹¹³ The share of kids who
 3 seriously considered suicide increased by 36%, and those that created a suicide plan increased by
 4 44%.¹¹⁴

5 119. From 2007 to 2019, suicide rates among youth aged 10-24 in the United States
 6 increased by 57%.¹¹⁵

7 120. From 2007 to 2016, emergency room visits for youth aged 5-17 rose 117% for
 8 anxiety disorders, 44% for mood disorders, and 40% for attention disorders.¹¹⁶

9 121. By 2019, one-in-five children aged 3-17 in the United States had a mental,
 10 emotional, developmental, or behavioral disorder.¹¹⁷ Mental health issues are particularly acute
 11 among females.¹¹⁸

12 122. On December 7, 2021, the United States Surgeon General issued an advisory on the
 13 youth mental health crisis.¹¹⁹ The Surgeon General explained, “[m]ental health challenges in
 14

15 ¹¹³ *Protecting Youth Mental Health: The U.S. Surgeon General’s Advisory* at 8, U.S. Dep’t Health
 16 & Hum. Servs. (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

17 ¹¹⁴ *Protecting Youth Mental Health: The U.S. Surgeon General’s Advisory* at 8, U.S. Dep’t Health
 18 & Hum. Servs. (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

19 ¹¹⁵ *Protecting Youth Mental Health: The U.S. Surgeon General’s Advisory* at 8, U.S. Dep’t Health
 20 & Hum. Servs. (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

21 ¹¹⁶ Charmaine Lo, *Children’s mental health emergency department visits: 2007-2016*, 145(6) Pediatrics e20191536 (June 2020), <https://doi.org/10.1542/peds.2019-1536>.

22 ¹¹⁷ *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021), <https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/>; see also Jean M. Twenge et al., *Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time*, 6 Clinical Psych. Sci. 3–17 (2017), <https://doi.org/10.1177/216770261772337> (noting that mental health issues are particularly acute among females).

23 ¹¹⁸ *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021), <https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/>

24 ¹¹⁹ *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021),

1 children, adolescents, and young adults are real and widespread. Even before the pandemic, an
 2 alarming number of young people struggled with feelings of helplessness, depression, and thoughts
 3 of suicide—and rates have increased over the past decade.”¹²⁰ Those “mental health challenges
 4 were the leading cause of disability and poor life outcomes in young people.”¹²¹

5 123. On February 13, 2023, the CDC released new statistics revealing that, in 2021, one
 6 in three girls seriously considered attempting suicide.¹²²

7 124. As discussed herein, each of the Defendants’ products manipulates minor users’
 8 brains by building in stimuli and social reward mechanisms (e.g., “Likes”) that cause users, such
 9 as Plaintiffs, to compulsively seek social rewards. That, in turn, leads to neuroadaptation; a child
 10 requires more and more stimuli to obtain the desired dopamine release, along with further
 11 impairments of decision-making. It also leads to reward-seeking through increasingly extreme
 12 content, which is more likely to generate intense reactions from other users. These consequences
 13 are the foreseeable results of Defendants’ engineering decisions.

14 **6. Defendants’ defective products encourage dangerous “challenges.”**

15 125. Dangerous “viral” challenges are one particularly pernicious result of the defective
 16 design of Defendants’ apps. “Online challenges or dares typically involve people recording
 17 themselves doing something difficult, which they share online to encourage others to repeat.”¹²³
 18 These challenges often generate significant engagement—sometimes millions of likes or views—
 19 and resulting social rewards to the users who post videos of themselves carrying out the challenges.

20
 21 <https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/>.

22 ¹²⁰ *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021),
 23 <https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/>

24 ¹²¹ *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021),
 25 <https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/>

26 ¹²² Azeen Ghorayashi & Roni Caryn Rabin, *Teen Girls Report Record Levels of Sadness*, C.D.C. Finds, N.Y. Times (Feb. 13, 2023),<https://www.nytimes.com/2023/02/13/health/teen-girls-sadness-suicide-violence.html>.

27 ¹²³ TikTok, *Online Challenges*, <https://www.tiktok.com/safety/en-us/online-challenges/>..

1 ByteDance product research has found that the number one most identified reason for teen
 2 participation in challenges is “[g]etting views/likes/comments,” followed by “[i]mpressing others
 3 online.”¹²⁴ Predictably, a substantial portion of online challenges—created for the purpose of
 4 generating social rewards—are very dangerous.

5 126. For example, one common social media challenge is the “Blackout Challenge,”
 6 where youth are encouraged to make themselves faint by holding their breath and constricting their
 7 chest muscles, or by restricting airflow with a ligature around their neck. This challenge is
 8 dangerous because, should the participant fail to remove the ligature around their neck prior to
 9 fainting, they may strangle themselves. Similarly, an “I Killed Myself” challenge involves
 10 participants faking their own deaths to record their family members’ reactions upon believing their
 11 loved one has died. This challenge is dangerous because certain methods of participating can
 12 actually kill (or inflict catastrophic injury) on participants. Likewise, the game Russian Roulette—
 13 in which a participant loads a revolver with a single bullet, spins the chamber until it falls on a
 14 random slot, and then shoots themselves—has taken on new life as a social media challenge.
 15 Certain plaintiffs in the MDL have participated in each of these challenges and suffered death or
 16 catastrophic injury as a result.

17 127. Again, these injuries and deaths are a foreseeable consequence of Defendants’
 18 addictive product designs. Many other addictive products cause injury or death because
 19 neuroadaptation causes addicts to use increasingly extreme methods to maintain dopamine levels.
 20 That compulsive use of social media would do the same was, at all relevant times, foreseeable,
 21 particularly as to young users whose abilities to assess risks, make wise decisions, and regulate
 22 their responses to perceived social needs are still developing.

23 128. Defendants are perfectly aware of the foreseeable risks to youth presented by their
 24 apps’ “viral” promotion of dangerous challenges. As ByteDance internal documents observe,
 25 “[y]oung people are more susceptible to copying a dangerous challenge than adults because,
 26 developmentally, their ability to weigh up risk and to think beyond the immediate consequences of

27 124 TIKTOK3047MDL-001-00002975. Similarly, ByteDance internal documents have identified
 28 “a desire for competition, status, followers, clicks and to push limits” as being reasons young
 people participate in dangerous challenges. TikTok3047MDL-001-00002375.

1 their actions is not yet fully formed. They are also more likely to take risks, to make impulsive
 2 choices, and to overestimate their ability to cope with risk. . . . The ability to understand the finality
 3 of death is also not fully fledged.”¹²⁵

4 129. Defendants have encouraged the viral challenge phenomenon in spite of the fact that
 5 their encouragement furthers dangerous challenges themselves and a broader ecosystem in which
 6 those dangerous challenges occur.

7 130. Meta, TikTok, and YouTube use engagement-optimized algorithms to control users’
 8 main feeds. Such algorithms spread extreme content as a consequence of its propensity to generate
 9 engagement. That design defect foreseeably leads to dangerous challenges spreading easily on these
 10 Defendants’ platforms. In addition, Meta’s algorithms were at one point in time structured to triple
 11 amplification of posts that used the word “challenge” in a hashtag—which Meta product engineers
 12 would later observe was “super high risk” and prompted “#killchallenge” to go viral.¹²⁶

13 131. Defendants have further encouraged challenges in other ways. ByteDance regularly
 14 creates overlays and filters that facilitate viral challenges. It offers advertisers the ability to launch
 15 Branded Hashtag Challenges and promotes them on user feeds.¹²⁷ It boasts that challenges are
 16 “geared towards building awareness and engagement,” and that “research shows that they can
 17 deliver strong results”—i.e., increased return on ad spending—“at every stage of the funnel.” This,
 18 in turn, generates advertising revenue for ByteDance. ByteDance employees have described
 19 challenges as “one of our core features.”¹²⁸

20 132. Snap also promotes viral challenges through Snapchat’s Snap Spotlight feature. It
 21 gives cash prizes to challenge participants whose challenges receive the most views on Snap
 22 Spotlight.¹²⁹ It has also created overlays that encourage challenges—such as a Speed Filter,

23 ¹²⁵ TikTok3047MDL-001-00002375.

24 ¹²⁶ META3047MDL-003-00030070.

25 ¹²⁷ TikTok for Business, *Branded Hashtag Challenge: Harness the Power of Participation* (Mar.
 16, 2022), <https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-power-of-participation>.

26 ¹²⁸ TikTok3047MDL-001-00000177.

27 ¹²⁹ “Snapchat adds ‘challenges’ with cash prizes to its TikTok competitor,” The Verge, Oct. 6,
 2021, <https://www.theverge.com/2021/10/6/22711632/snapchat-spotlight-challenges-announced-cash-prizes-tiktok>.

1 showing how fast a given user was going at the time they took a particular Snap.¹³⁰ Other
 2 Defendants have also promoted viral challenges based on a recognition that such challenges drive
 3 engagement and advertising revenue.

4 **7. Defendants' defective social media apps facilitate and contribute to the**
sexual exploitation and sextortion of children, and the ongoing
production and spread of child sex abuse material online.

6 133. It is well documented that sexual predators use Defendants' products to target and
 7 exploit minors. They are drawn to social media because it provides them with easy access to a large
 8 pool of potential victims, many of whom are addicted to Defendants' products. On February 7,
 9 2023, for example, the FBI and international law enforcement agencies issued a joint warning about
 10 the global "financial sextortion crisis" which stated: "Financial sextortion can happen anywhere,
 11 although it mainly occurs on the digital platforms where children are already spending their screen
 12 time, like social media and gaming websites, or video chat applications. On these platforms,
 13 predators often pose as girls of a similar age and use fake accounts to target young boys, deceiving
 14 them into sending explicit photos or videos. The predator then threatens to release the
 15 compromising materials unless the victim sends payment, however, in many cases, the predator
 16 will release the images anyway."¹³¹

17 134. Rather than mitigate the risk of sexual exploitation and harm to children and teens
 18 on their products, Defendants have facilitated and exacerbated it by implementing defective product
 19 features that help sexual predators connect with children. Defendants' products are designed in
 20 unsafe ways—including, as to some or all Defendants, flawed age verification, lack of meaningful
 21 mechanisms to prevent sham accounts, default-public profiles, matching and recommending
 22 connections between adults and minors, promoting unsolicited messages and interactions from
 23 adults, and wholly inadequate and ineffective parental controls, among others—that allow children
 24 to be easily identified, targeted, accessed, and exploited.

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 26
 27 ¹³⁰ See *Lemmon v. Snap, Inc.*, 995 F.3d 1085, 1085 (9th Cir. 2021).

28 ¹³¹ International Law Enforcement Agencies Issue Joint Warning about global financial sextortion
 crisis, FBI (2023), <https://www.fbi.gov/news/press-releases/international-law-enforcement-agencies-issue-joint-warning-about-global-financial-sextortion-crisis>.

1 135. Compounding the problem, Defendants routinely fail to report abuse. Steve Grocki,
 2 the U.S. Department of Justice's Chief of the Criminal Division's Child Exploitation & Obscenity
 3 Section, put it this way: "A lot of times, someone has come across something problematic and the
 4 platform isn't doing anything[.]" He went on to say, "[t]hese reports can be of great value because
 5 they signal where there are big problems and we can flag those issues to Internet companies, such
 6 as when products are being exploited by offenders, they aren't meeting reporting requirements, or
 7 when children under the age restriction are accessing inappropriate content."¹³²

8 136. By failing to implement adequate age and identity verification on the products,
 9 Defendants knowingly and foreseeably place children in the pathways of sexual predators, who
 10 utilize their products and exploit their defective design features. Age verification on Defendants'
 11 products can be defective for a variety of reasons, including:

- 12 a. Inaccurate information: Users can easily enter false information, such as a
 13 fake date of birth, to bypass age restrictions;
- 14 b. No measures to prevent sham accounts: Defendants' products are structured
 15 so that users can easily create multiple accounts under different names and
 16 ages; and
- 17 c. Incomplete implementation: Defendants' products only partially implement
 18 age verification, such as requiring users to provide their date of birth but not
 19 verifying it through any means.

20 137. To be sure, Defendants possess the technology to identify minors who are posing as
 21 adults and adults who are posing as minors, but they do not use this information to identify violative
 22 accounts and remove them from their products.

23 138. For example, Byby making minors' profiles public by default, certain Defendants
 24 supplyhave supplied sexual predators with detailed background information about children,
 25 including their friends, activities, interests, and even location. By providing this information, these
 26 Defendants put children at risk of being approached and befriended by sexual predators. These

27
 28 ¹³² Equality Now, *Steve Grocki Expert Interview - United States* (Nov. 15, 2021),
<https://www.equalitynow.org/stories/steve-grocki-expert-interview-united-states/>.

1 young targets hadve no idea that their posts, friends, pictures, and general online sharing
 2 representeda windfall of information that a predator can and will could use to sexually exploit or
 3 abuse them.

4 139. Defendants-Meta, ByteDance, and Google are aware of these very real risks that
 5 public-by-default accounts for minors can cause by leaving minors broadly exposed to adult
 6 strangers, and yet have only recently (in response to Plaintiffs' actions) begun to create default
 7 privacy settings for youth accounts—even though they have been aware of these harmful
 8 interactions for years.

9 140. Defendants have also lagged behind in restricting who can reach minor users
 10 through Direct Message features. That is particularly egregious in the case of Meta, whose own
 11 research has made clear that the vast majority of unwanted interactions received by these accounts
 12 come from unconnected adults.¹³³

13 141. Defendants' parental controls are also defective in giving parents effective control
 14 over their children's online activity, which can lead to kids connecting with predators. These defects
 15 take several forms:

- 16 a. Limited scope: parental control tools only partially cover a child's activity,
 leaving gaps that predators can exploit;
- 17 b. Inadequate monitoring: parental control tools do not provide real-time
 monitoring of a child's activity, meaning that harmful interactions with
 predators go unnoticed;
- 18 c. Lack of customization: parents are not able to fully customize their parental
 control settings to meet the specific needs of their family and children,
 leaving them with a one-size-fits-all solution that is wholly ineffective in
 preventing connections with predators; and
- 19 d. Opt-in format: parental control tools that require parents to affirmatively link
 to their child's account are futile when parents are not notified that their
 minor child has opened an account on the platform in the first place.

28 133 META3047MDL-003-00107197.

1 142. Defendants are well aware that vulnerable young users—whom Defendants induce
 2 to spend large amounts of time on their products, through a powerful combination of algorithmic
 3 recommendations and addictive features designed to make it hard for a user to disengage—are
 4 uniquely susceptible to grooming by seasoned sexual predators. Research shows that young users
 5 are heavily reliant on their social connections—exploring and shaping their identity through their
 6 social relationships.

7 143. Defendants' defective product features have benefited sexual predators in many
 8 other ways as well. For example, sexual predators leverage Defendants' use of ephemeral,
 9 "disappearing" technology to assure young users that there is no risk to them sending a sexual photo
 10 or video. Trusting young users are then horrified to discover that these videos have been captured
 11 by predators and then circulated to their own friends and contacts or other sexual predators. In some
 12 severe cases, young users find themselves in the nightmarish scheme known as "sextortion," where
 13 a predator threatens to circulate the sexual images of the minor unless the predator is paid to keep
 14 the images under wraps. Law enforcement agencies across the country report that this scheme has
 15 become pervasive on Defendants' products.

16 144. As a direct and foreseeable consequence of Defendants' connecting children to
 17 sexual predators, Defendants' products facilitate and increase the risk of sexual exploitation, sexual
 18 abuse, and sextortion of children.¹³⁴

19 145. Many adult predators use Defendants' apps to facilitate commercial sex acts,
 20 including the production and distribution of known Child Sex Abuse Material ("CSAM").¹³⁵

22

¹³⁴ "Sextortion is a form of sexual exploitation. The offender uses coercion and threats to compel
 23 the victim to produce sexual images or videos engaging in sexual acts. Sometimes the offender
 24 already possesses nude or sexual images of the victim, and is threatening to release them if the
 25 victim will not do as the offender commands." United States Attorney's Office Southern District
 26 of Indiana, *What is Sextortion?*, <https://www.justice.gov/media/844516/dl?inline>.

27

¹³⁵ The term CSAM includes any definition of "Child Pornography" under 18 U.S.C. § 2256(8)
 28 and corresponding caselaw, including but not limited to, *United States v. Dost*, 636 F. Supp. 828,
 832 (S.D. Cal. 1986), *aff'd sub nom. United States v. Wiegand*, 812 F.2d 1239 (9th Cir. 1987),
 and *aff'd*, 813 F.2d 1231 (9th Cir. 1987); see also Canadian Centre for Child Protection Report,
Project Arachnid: Online Availability of Child Sexual Abuse Material,
https://protectchildren.ca/pdfs/C3P_ProjectArachnidReport_Summary_en.pdf.

1 CSAM is illegal contraband and constitutes a personal injury.¹³⁶ Defendants bear responsibility for
 2 the continued creation and distribution of CSAM on their apps, which they know or should know
 3 about.¹³⁷ “The unlawful conduct of everyone who reproduces, distributes, or possesses the images
 4 of the victim’s abuse … plays a part in sustaining and aggravating this tragedy.”¹³⁸

5 146. Tragically, for the young users who have been groomed and cajoled into creating or
 6 sending CSAM, these images are rapidly shared, reproduced, and disseminated to other sexual
 7 predators at an astonishing rate. A 2021 article published in *Fast Company* revealed, “Facebook
 8 noted that more than 90% of the reported CSAM content on its platforms was the ‘same as or visibly
 9 similar to previously reported content,’ which is the crux of the problem. Once a piece of CSAM
 10 content is uploaded, it spreads like wildfire....”¹³⁹ Each time their images are disseminated it
 11 represents a fresh revictimization of young users who are unable to stop the proliferation and spread
 12 of their images. Despite this knowledge, Defendants failed to design their apps with readily
 13 available technology or less exploitative features that in conjunction with each other could curb,
 14 rather than fuel, the sexual exploitation and sextortion of adolescent users, as well as limit the
 15 distribution of known CSAM on their products.

16 147. Tools like PhotoDNA and YouTube’s CSAI Match are image comparison
 17 technologies that can detect matches between modified versions of the same image or images.
 18 Consider two versions of the same image: one in full color, the other in black and white. To the
 19 human eye, these are understood to be images depicting the same thing, but to a computer, they are
 20 entirely different. These tools return values indicating the “closeness” between two images.¹⁴⁰ This
 21 process, sometimes called “fuzzy matching” or “perceptual hashing,” looks at the visual content of
 22 the image instead of the exact binary image data (i.e., the digital fingerprint or cryptographic hash).

23 ¹³⁶ See *Amy v. Curtis*, 2020 WL 5365979 (N.D. Cal. Sept. 8, 2020) (extending *In re Boland*, 946
 24 F.3d 335 (6th Cir. 2020)).

25 ¹³⁷ *New York v. Ferber*, 458 U.S. 747, 759 (1982).

26 ¹³⁸ *Paroline v. United States*, 572 U.S. 434, 457 (2014).

27 ¹³⁹ Glen Pounder & Rasty Turek, *On social media, child sexual abuse material spreads faster than it can be taken down*, Fast Company (July 14, 2021),
<https://www.fastcompany.com/90654692/on-social-media-child-sexual-abuse-material-spreads-faster-than-it-can-be-taken-down>.

28 ¹⁴⁰ Microsoft, *How does PhotoDNA work?*, <https://www.microsoft.com/en-us/photodna>.

1 148. Although Defendants have used PhotoDNA and other hash-matching technology to
 2 compare suspect images against databases of previously verified CSAM provided by law
 3 enforcement or child protection agencies,¹⁴¹ their product design modifications have diminished
 4 the effectiveness and success of these hash-matching technologies and detection models. Hash-
 5 matching detection can be made more effective by, for example, prioritizing factors like “tolerance”
 6 (i.e., specificity) over “efficiency” (i.e., cost and scalability) and “distinctness” (i.e., more
 7 specificity).¹⁴²

8 149. In addition, Defendants have defectively designed their products’ reporting tools so
 9 that they actually impede the ability of young users and their parents to report CSAM or material
 10 related to child exploitation. A 2020 report by the Canadian Centre for Child Protection revealed
 11 that social media companies design their products in a way that makes reporting CSAM difficult,
 12 if not impossible, for users.¹⁴³ While CSAM can be reported as generally harmful material,
 13 Defendants designed their products with no specific function to report CSAM contraband.
 14 Defendants could easily do so.

15 150. Plaintiffs’ reports of CSAM, and requests to remove and take down such material
 16 from Defendants’ products, often fall on deaf ears. In many cases, Defendants have failed to take
 17 action until legal correspondence was sent.¹⁴⁴

18 ¹⁴¹ This is a process called “hashing.” For a fuller explanation, see Hany Farid, *An Overview of*
 19 *Perceptual Hashing*, J. of Online Trust and Safety (Oct. 2021) at 2-3,
<https://tsjournal.org/index.php/jots/article/download/24/14> and Jennifer Langston, *How photodna*
 20 *for video is being used to fight online child exploitation On the Issues* (2020),
<https://news.microsoft.com/on-the-issues/2018/09/12/how-photodna-for-video-is-being-used-to-fight-online-child-exploitation/>.

21 ¹⁴² Hany Farid, *An Overview of Perceptual Hashing*, *Journal of Online Trust and Safety* (October
 22 2021) at 2-3, <https://tsjournal.org/index.php/jots/article/download/24/14> (“In practice, the choice
 23 of a hash is based on a number of factors, including: 1. Scale. When operating at the scale of a
 24 major social media platform, for example, with billions of daily uploads, any hash must be highly
 25 efficient and distinct. At this scale, even a 1/100 or even 1/10,000 false positive rate (incorrectly
 26 matching two images) is untenable. 2. Tolerance. When trying to limit the upload of, for example, legal
 27 adult pornography, resilience may be less important than, for example, trying to limit child
 28 sexual abuse imagery.”).

1 ¹⁴³ Canadian Centre for Child Protection, *Reviewing Child Sexual Abuse Material Reporting*
 2 Functions on Popular Platforms,
https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf.

3 ¹⁴⁴ Angus Crawford, *Facebook failed to remove sexualised images of children*, BBC News (Mar.
 4 7, 2017), <https://www.bbc.com/news/technology-39187929>.

1 151. For minor victims addicted to Defendants' products, the inability to report illegal
 2 images as contraband delays their removal and results in repeated re-victimization. Experience
 3 shows that minors become obsessed with monitoring the spread of their own CSAM in a desperate
 4 attempt to control what often becomes an endless invasion of their privacy.¹⁴⁵ The Canadian Centre
 5 for Child Protection reported that one CSAM victim stated, "I spend hours every day searching for
 6 my own content, reporting thousands of accounts and posts sharing CSAM. When platforms don't
 7 actively look for or prevent this content from being uploaded, the burden falls on me to have these
 8 images removed."¹⁴⁶

9 152. This design defect also hinders Defendants' ability to provide timely information to
 10 child welfare and law enforcement agencies, even when Defendants know or should know children
 11 are in immediate danger.¹⁴⁷

12 153. Further, Defendants have unreasonably increased their products' dangerousness to
 13 children by failing to utilize freely available and industry-proven child protection tools such as
 14 Project Arachnid Shield, a CSAM detection platform that processes thousands of images per second
 15 and sends removal notices to electronic services providers. Project Arachnid Shield is a free
 16 Application Programming Interface ("API") that Defendants could incorporate into the design of
 17 their apps, which would increase their safety and prevent child exploitation and the distribution of
 18 CSAM through their products.¹⁴⁸ Designing their products with such existing and free technology
 19 would reduce the amount of CSAM being uploaded onto their products to be used as grooming
 20 tools on Defendants' adolescent users. Again, to be clear, CSAM is contraband material.

21 154. In 2021, the Thorn organization published a report detailing the myriad problems of
 22 child sexual exploitation that were present throughout Facebook, Instagram, TikTok, Snapchat and
 23

24 ¹⁴⁵ Angus Crawford, *Facebook failed to remove sexualised images of children*, BBC News (Mar.
 7, 2017), <https://www.bbc.com/news/technology-39187929>.

25 ¹⁴⁶ Angus Crawford, *Facebook failed to remove sexualised images of children*, BBC News (Mar.
 7, 2017), <https://www.bbc.com/news/technology-39187929>.

26 ¹⁴⁷ Canadian Centre for Child Protection, *Resources & Research: Reviewing Child Sexual Abuse
 27 Material Reporting Functions On Popular Platforms*, [https://protectchildren.ca/en/resources-
 research/csam-reporting-platforms/](https://protectchildren.ca/en/resources-

 research/csam-reporting-platforms/) (last visited Feb 9, 2023).

28 ¹⁴⁸ Project Arachnid, <https://www.projectarachnid.ca/en/#shield>.

YouTube.¹⁴⁹ Thorn contacted Meta and provided a topline read-out of its findings and offered to meet with Meta to give the company a deeper look at the Thorn's data.¹⁵⁰

155. Thorn's key findings about the prevalence of sexual exploitation on Defendants' platforms are startling:

- a. “[O]ne-quarter of participants (25%) reported having had an online sexual interaction with someone they thought was 18 or older;”
- b. “Younger (9-13) children and LGBTQ+children are at higher risk (9-13 year olds 20% sexual experience with adult, 32% of LGBTQ youth);”
- c. “Neither blocking nor reporting [offenders] protects minors from continued harassment;”
- d. “[R]ecidivism is a problem: over half of participants who had blocked (55%) or reported (55%) someone, said they were recontacted online. Younger boys are particularly at risk;”
- e. “Kids reporting having difficulties finding the right reporting categories when they did decide to report- they also noted that things like “involves a child” doesn’t resonate with them as teens;”
- f. “17% of respondents who used FB say they have had a harmful experience, 10% said they had a sexual interaction on the platform;”
- g. “26% of respondents who used IG say they have had a harmful experience, 16% said they have had a sexual interaction on the platform;”
- h. “18% of respondents who used Messenger say they have had a harmful experience, 11% said they had a sexual interaction on the platform. In 6% of these sexual interactions the minor believed the person was 18%.”¹⁵¹

¹⁴⁹ META3047MDL-003-00186841 (May 2021, Responding to Online Threats: Minors' Perspectives on Disclosing, Reporting and Blocking. Findings from 2020 Quantitative Research among 9-17 year olds).

¹⁵⁰ META3047MDL-003-00186838.

¹⁵¹ META3047MDL-003-00186838.

1 **8. Defendants could have avoided harming Plaintiffs.**

2 156. Each Defendant solicited customers, including Plaintiffs, on the open market and
 3 encouraged the use of their defective apps.

4 157. Each Defendant offers its app to the consuming public with dangerous, standardized
 5 features and designs (discussed below) that users, like Plaintiffs, cannot bargain to change.

6 158. Plaintiffs (along with millions of other U.S. users) confer a benefit on each
 7 Defendant in exchange for using their respective products.

8 159. Each Defendant could have, but purposefully failed to, design its products to protect
 9 and avoid injury to kids and adolescent users, such as Plaintiffs.

10 160. Each Defendant knew or should have known that adolescents' developing brains
 11 leave them relatively less able to delay gratification, control impulses, or resist immediately
 12 pleasurable social rewards.

13 161. Each Defendant knew or should have known that the more children use social media,
 14 the harder it is to quit.

15 162. Each Defendant knew or should have known that excessive use of its apps has severe
 16 and wide-ranging effects on youth mental and physical health.

17 163. Each Defendant knew or should have known that youth are especially vulnerable to
 18 long-term harm from its addictive products.

19 164. Each Defendant knew or should have known that the design of its products attracts,
 20 enables, and facilitates child predators, and that such predators use its apps to recruit and sexually
 21 exploit children for the production of CSAM and its distribution on Defendants' products.

22 165. Each Defendant knew or should have known that the longer adolescent users remain
 23 engaged with its products, the higher the risk that adult predators will target them.

24 166. Each Defendant knew or should have known that many of its users are under the age
 25 of 13, despite the limitations set out in COPPA.

26 167. Despite all that, each Defendant failed to adequately warn Plaintiffs and Consortium
 27 Plaintiffs of the known risks and harms of using its products. Each Defendant avoided design
 28 changes that would have increased youth safety. And each Defendant pressed ahead with changes

1 designed to keep kids hooked, even though they knew or should have known those changes were
 2 risky.

3 168. Each Defendant was in a superior position to control the risks of harm, ensure the
 4 safety of its apps, insure against the defects, and spread the costs of any harm resulting from the
 5 defects.

6 169. Plaintiffs, Consortium Plaintiffs, and the consuming public did not have, and could
 7 not have had, as much knowledge as Defendants about Defendants' apps and how they were
 8 defectively designed.

9 170. Consumers, including Plaintiffs and Consortium Plaintiffs, could not have inspected
 10 the apps before accepting them to learn of the defects or the harms that flow from the defects.

11 **9. Defendants consistently refer to and treat their apps as products.**

12 171. Each Defendant characterizes and treats their various apps as mass-produced, mass-
 13 marketed products that each of the Defendants designs, tests, researches, builds, ships, markets,
 14 and makes widely available in the stream of commerce for personal use by consumers, including
 15 youth.

16 172. For example, Defendants routinely characterize their social media platforms as
 17 products in their regulatory filings and communications with the financial markets and investors.
 18 In its 2022 Annual Report, Meta stated that “[t]he term ‘Family’ refers to our Facebook, Instagram,
 19 Messenger, and WhatsApp products,” and that “there are inherent challenges in measuring usage
 20 of our products across large online and mobile populations.”¹⁵² Similarly, in its 2015 Annual
 21 Report, Google stated that its “core products such as … YouTube… each have over one billion
 22 monthly active users.”¹⁵³ Likewise, in its 2022 Annual Report, Snap explains that its “flagship
 23 product, Snapchat, is a visual messaging application.”¹⁵⁴

24 ¹⁵² Meta, 2022 Annual Report 3-4 (Feb. 2, 2023), <https://investor.fb.com/financials/default.aspx>.

25 ¹⁵³ Google, 2015 Annual Report 2 (Feb. 11, 2016),
<https://www.sec.gov/Archives/edgar/data/1288776/000165204416000012/googl10-k2015.htm>.

26 ¹⁵⁴ Snap, Inc., *Snap, Inc. 2022 Annual Report* 10 (Jan. 31, 2023),
<https://investor.snap.com/financials/Annual-Report/default.aspx>; see also Snap Inc., *Investor Letter Q3 2022* 2 (Oct 20, 2022),
https://s25.q4cdn.com/442043304/files/doc_financials/2022/q3/Snap-Inc.-Q3-2022-Investor

1 173. Defendants likewise routinely describe their apps as products in statements to public
 2 officials and users. In testimony to the Senate Commerce and Judiciary Committees, Mark
 3 Zuckerberg stated that Facebook’s “controls are not just to make people feel safe; it’s actually what
 4 people want in the product.”¹⁵⁵ He noted that Facebook “want[s] our products to be valuable to
 5 people.”¹⁵⁶ And he stated that, “fundamentally, at our core, [Meta is] a technology company where
 6 the main thing that we do is have engineers and build products.”¹⁵⁷

7 174. The other Defendants have made similar statements. In a written response to Senator
 8 Marsha Blackburn, Snap noted that it takes suggestions into consideration “when releasing
 9 products.”¹⁵⁸ In written testimony to the Senate Commerce Committee, a ByteDance witness
 10 referred to the “variety of tools and controls we have built into the product.”¹⁵⁹ YouTube executives
 11 have used similar language. In written testimony to the Senate Commerce Committee, one
 12 YouTube witness noted that consultants “work closely with the product teams to ensure that product
 13 design reflects an understanding of children’s unique needs.”¹⁶⁰ And in written testimony to the
 14 Senate Committee on Homeland Security and Governmental Affairs, YouTube’s Chief Product
 15
 16
 17

18 [Letter-\(10.20.2022\).pdf](#), (“Our team remains focused on expanding product offering and
 19 deepening engagement with our global community”).

20 ¹⁵⁵ Bloomberg Government, Transcript of Mark Zuckerberg’s Senate Hearing, Washington Post
 21 (Apr. 10, 2018), <https://www.washingtonpost.com/news/the-switch/wp/2018/04/10/transcript-of-mark-zuckerbergs-senate-hearing/>.

22 ¹⁵⁶ Bloomberg Government, Transcript of Mark Zuckerberg’s Senate Hearing, Washington Post
 23 (Apr. 10, 2018), <https://www.washingtonpost.com/news/the-switch/wp/2018/04/10/transcript-of-mark-zuckerbergs-senate-hearing/>.

24 ¹⁵⁷ Bloomberg Government, Transcript of Mark Zuckerberg’s Senate Hearing, Washington Post
 25 (Apr. 10, 2018), <https://www.washingtonpost.com/news/the-switch/wp/2018/04/10/transcript-of-mark-zuckerbergs-senate-hearing/>.

26 ¹⁵⁸ SNAP0000246.

27 ¹⁵⁹ *Protecting Kids Online: Snapchat, TikTok, and Youtube: Hearing Before the Subcomm. on
 28 Consumer Protection, Product Safety, and Data Security of the S. Comm. On Commerce, Science,
 and Transportation* (Oct. 26, 2022), <https://www.commerce.senate.gov/2021/10/protecting-kids-online-snapchat-tiktok-and-youtube>.

29 ¹⁶⁰ *Protecting Kids Online: Snapchat, TikTok, and Youtube: Hearing Before the Subcomm. on
 Consumer Protection, Product Safety, and Data Security of the S. Comm. On Commerce, Science,
 and Transportation* (Oct. 26, 2022), <https://www.commerce.senate.gov/2021/10/protecting-kids-online-snapchat-tiktok-and-youtube>.

1 Officer stated that “responsibility is our top priority at YouTube and informs every product and
 2 policy decision we make.”¹⁶¹

3 175. Defendants employ “product managers” and have established “product teams”
 4 responsible for the development, management, operation, and marketing of their apps. For example,
 5 Meta lists on the careers section of its website a role for “Product Manager, Instagram Camera.”¹⁶²
 6 Snap’s website lists job openings for a “Product Marketing Manager, App Ads” and a “Director of
 7 Product Management, Ad Marketplace and Quality.”¹⁶³ TikTok Careers has employment
 8 opportunities for a Livestream Product Manager,” “Senior Product Manager-Operation Platform,”
 9 “Vertical Product Marketing Manager,” and “Technical Product Specialist – Platforms.”¹⁶⁴ Earlier
 10 this year, YouTube Careers was hiring for a “Director Product Management, YouTube Shorts
 11 Discovery.”¹⁶⁵ YouTube’s pitch: “Make products as fun as they are useful.”¹⁶⁶

12 176. Defendants understand that, when they are developing their apps, they are building,
 13 testing, doing quality control on, and modifying their “products.” For instance, in a 2013 earnings
 14 call, one Meta employee noted, “We will continue to focus our development efforts to build
 15 products that drive engagement for people of all ages.”¹⁶⁷ In a 2012 interview at Tech Crunch
 16 Disrupt, Zuckerberg noted that Instagram “has a super talented group of, of engineers. They’re
 17 building [this] amazing product.” Meta employees often complement each other’s “great product
 18 improvement[s].”¹⁶⁸

19 ¹⁶¹ *Social Media’s Impact on Homeland Security, Part II: Hearing Before the S. Comm. On*

20 Homeland Security and Governmental Affairs

21 (Sept. 14, 2022) (written testimony of Neal Mohan, Chief Product Officer, YouTube and SVP, Google), <https://www.hsgac.senate.gov/wp-content/uploads/imo/media/doc/Testimony-Mohan-2022-09-14.pdf>.

22 ¹⁶² Meta Careers, <https://www.metacareers.com/>.

23 ¹⁶³ Snap Inc., Jobs, <https://snap.com/en-US/jobs>.

24 ¹⁶⁴ TikTok, Careers, <https://careers.tiktok.com/>.

25 ¹⁶⁵ YouTube, Careers, <https://www.youtube.com/jobs/>; see also Kevin Roose, *YouTube’s Product Chief on Online Radicalization and Algorithmic Rabbit Holes*, N.Y. Times (Mar. 29, 2019), <https://www.nytimes.com/2019/03/29/technology/youtube-online-extremism.html> (interview with “YouTube’s chief product officer”: “our product teams here are thinking of all of these solutions”).

26 ¹⁶⁶ YouTube, *YouTube Jobs*, <https://www.youtube.com/jobs/product-and-design/>.

27 ¹⁶⁷ Facebook, *Facebook Q3 2013 Earnings Call*, Zuckerberg Transcripts 236 (Oct. 20, 2013), https://epublications.marquette.edu/zuckerberg_files_transcripts/236.

28 ¹⁶⁸ Haugen_000020610.

1 177. Other companies operate similarly. In a blog post, Snap referred to its “rebuild” of
 2 the Snapchat “Android product.”¹⁶⁹ YouTube asked its users for “Your Help to Test New Product
 3 Features,” saying the “main goal of this study is to test new product features to better understand
 4 your needs.”¹⁷⁰ Likewise, ByteDance’s internal documents routinely refer to TikTok as a product,
 5 including in references to plans for a “Product Feature Livestream,” “[c]omplet[ing] the team
 6 building of product [and] basic figures of product,” the importance of “reviewing product
 7 issues,”¹⁷¹ and various “Product operations” issues including “translat[ion] into English.”¹⁷²

8 178. Defendants also set up workflows and systems that “package” and “ship” their apps
 9 as “products.” Zuckerberg has explained how “we ship a lot of tweaks to the products, or small
 10 changes to existing products.”¹⁷³ ByteDance has referred to “special product packaging
 11 awareness.”¹⁷⁴

12 179. Defendants treat their apps as products in customer research, branding, marketing,
 13 and growth discussions. In text messages with Kevin Systrom in 2012, Zuckerberg noted, “I’m
 14 really excited about what we can do to grow Instagram as an independent brand and product.”¹⁷⁵
 15 In an internal document from 2018, Instagram employees noted that only “[a] few more days will
 16 be needed before we have an idea of how good our product-market fit is.”¹⁷⁶ Similarly, TikTok’s
 17 Product Policies note that “[e]ach product has its own set of guidelines … but they are adjusted to
 18 reflect specific product’s mission and vision.”¹⁷⁷ Google has been equally candid in referring to
 19

20 ¹⁶⁹ Snap Newsroom, Restructuring and Refocusing our Business (Sept. 11, 2022) Restructuring
 and Refocusing our Business.

21 ¹⁷⁰ YouTube Official Blog, We Need Your Help to Test New Product Features,
<https://blog.youtube/news-and-events/we-need-your-help-to-test-new-product/> (2012).

22 ¹⁷¹ TikTok3047MDL-001-00000769.

23 ¹⁷² TikTok3047MDL-001-00058090.

24 ¹⁷³ Facebook, Facebook Q3 2013 Earnings Call" (2013). Zuckerberg Transcripts at 2.
https://epublications.marquette.edu/zuckerberg_files_transcripts/236

25 ¹⁷⁴ TikTok3047MDL-001-00000215.

26 ¹⁷⁵ Facebook, Facebook text log between Mark Zuckerberg and Kevin Systrom, (2012)
https://epublications.marquette.edu/zuckerberg_files_transcripts?utm_source=epublications.marquette.edu%2Fzuckerberg_files_transcripts%2F1330&utm_medium=PDF&utm_campaign=PDFCoverPages

27 ¹⁷⁶ META3047MDL-003-000031888.

28 ¹⁷⁷ TikTok3047MDL-001-00060877.

1 YouTube as a “product,” publishing an anniversary post entitled, “A Look Back as We Move
 2 Forward: YouTube Product Launches in 2011.”¹⁷⁸

3 180. Meta has characterized Instagram and Facebook as “products” when discussing the
 4 harms and injuries that those apps inflict on users. Meta described as a “product” issue the role of
 5 Instagram’s “Explore” feature in elevating the risk of suicide and self-injury in certain users.¹⁷⁹
 6 Meta employees have characterized as a “product” issue users’ addictive use of Instagram.¹⁸⁰ Still
 7 another Meta employee has expressed concern about Facebook, stating “I’m anxious about whether
 8 FB the product is good for the world.”¹⁸¹

9 B. FACTUAL ALLEGATIONS AS TO META

10 1. Background and overview of Meta’s products.

11 181. Meta operates and designs Facebook and Instagram, two of the world’s most popular
 12 social media products. In 2022, two billion users worldwide were active on Instagram each month,
 13 and almost three billion were monthly active users of Facebook.¹⁸² This enormous reach has been
 14 accompanied by enormous damage for Plaintiffs and other adolescent users.

15 182. Meta understands that its products are used by kids under 13: “there are definitely
 16 kids this age on IG [Instagram] . . . they aren’t supposed to be on IG at all.”¹⁸³ It understands that
 17 its products are addictive: “(1) teens feel addicted to IG and feel a pressure to be present, (2) like
 18 addicts, they feel that they are unable to stop themselves from being on IG, and (3) the tools we
 19 currently have aren’t effective at limiting their time on the ap (sic).”¹⁸⁴ It understands that addictive

21 ¹⁷⁸ YouTube Official Blog, *A Look Back as We Move Forward: YouTube Product Launches in*
 22 *2011*, <https://blog.youtube/news-and-events/look-back-as-we-move-forward-youtube/> (Jan. 23,
 2012).

23 ¹⁷⁹ META3047MDL-003-00068863 at META3047MDL-003-00068883.

24 ¹⁸⁰ Haugen_00010127 (“It seems clear from what’s presented here that some of our users are
 25 addicted to our products. And I worry that driving sessions incentivizes us to make our products
 26 more addictive.”).

27 ¹⁸¹ Haugen_00012484 at Haugen_00012553

28 ¹⁸² Alex Barinka, *Meta’s Instagram Users Reach 2 Billion, Closing In on Facebook*, Bloomberg
 29 (Oct. 26, 2022), <https://www.bloomberg.com/news/articles/2022-10-26/meta-s-instagram-users-reach-2-billion-closing-in-on-facebook>.

29 ¹⁸³ META3047MDL-003-00123666 at META3047MDL-003-00123666.

30 ¹⁸⁴ META3047MDL-003-00157036 at META3047MDL-003-00157036.

1 use leads to problems: “it just keeps people coming back even when it stops being good for
 2 them.”¹⁸⁵ And it understands that these problems can be so extreme as to include encounters
 3 between adults and minors—with such “sex-talk” 32x more prevalent on Instagram than on
 4 Facebook¹⁸⁶ and driven largely by a single product defect.¹⁸⁷

5 183. Despite this knowledge, Meta has abjectly failed at protecting child users of
 6 Instagram and Facebook. Rather than stand up a five-alarm effort to stop the problems created by
 7 its products, “the mental health team stopped doing things . . . it was defunded . . . completely
 8 stopped.”¹⁸⁸ “We’ve consistently deprioritized addiction as a work area.”¹⁸⁹ Zuckerberg himself
 9 was warned personally: “We are not on track to succeed for our core well-being topics (problematic
 10 use, bullying & harassment, connections, and SSI), and are at increased regulatory risk and external
 11 criticism. These affect everyone, especially Youth and Creators; if not addressed, these will follow
 12 us into the Metaverse. . . .”¹⁹⁰

13 184. Yet Meta did nothing. And its reason was simple: “the growth impact was too
 14 high.”¹⁹¹ Taking action would lower usage of (and therefore lower profits earned from) a critical
 15 audience segment. “Youth and Teens are critically important to Instagram . . . there’s a new group
 16 of 13-year-olds every year and the competition over their Social Media engagement has never been
 17 more fierce.”¹⁹²

18 185. Meta’s frequent gestures towards youth safety were never serious and always driven
 19 by public relations: “it’s all theatre.”¹⁹³ Meta offered tools to kids and parents, like “time spent,”
 20 that it knew presented false data—“Our data as currently shown is incorrect. . . . We’re sharing bad

22 185 META3047MDL-003-00011760 at META3047MDL-003-00011761.

23 186 META3047MDL-003-00119838 at META3047MDL-003-00119838.

24 187 META3047MDL-003-00013254 at META3047MDL-003-00013255. This defect, “People
 You May Know,” allows adults to connect with minors on Facebook and Instagram.

25 188 META3047MDL-003-00011697 at META3047MDL-003-00011698.

26 189 META3047MDL-003-00157133 at META3047MDL-003-00157134.

27 190 META3047MDL-003-00188109 at META3047MDL-003-00188114 (footnote omitted).
 “SSI” refers to “suicide and self-injury.” META3047MDL-003-00068863.

28 191 META3047MDL-003-00013254 at META3047MDL-003-00013254.

192 META3047MDL-003-00030070 at META3047MDL-003-00030071.

193 META3047MDL-003-00053803 at META3047MDL-003-00053803.

1 metrics externally. . . . we vouch for these numbers.”¹⁹⁴ At the same time, Meta engaged in a cynical
 2 campaign to “counter-messag[e] around the addiction narrative” by discrediting existing research
 3 as “completely made up. . .”¹⁹⁵ Meta knew better. Indeed, both Zuckerberg and Instagram CEO
 4 Adam Mosseri heard firsthand from a leading researcher that Instagram and Facebook posed unique
 5 dangers to young people. Meta could have but failed to prevent the harms suffered by Plaintiffs.

6 **a. Meta’s origins and the development of Facebook.**

7 186. In October 2003, a sophomore at Harvard College named Mark Zuckerberg hacked
 8 into the websites of Harvard’s residential dorms to collect photos of students. He then designed a
 9 website called “Facemash” that invited users to rank the “hotness” of female students by comparing
 10 their photos side-by-side. In just one day, Facemash users cast over 22,000 votes judging the looks
 11 of women at Harvard.¹⁹⁶ This was precisely the point of Facemash, as its homepage made clear:
 12 “Were we let in for our looks? No. Will we be judged on them? Yes.” When interviewed about
 13 Facemash, Zuckerberg stated, “I’m a programmer and I’m interested in the algorithms and math
 14 behind it.” Zuckerberg was summoned to appear before Harvard’s disciplinary body.

15 187. After narrowly escaping expulsion, Zuckerberg began writing code for a new
 16 website, thefacebook.com. The growth of the product that subsequently became Facebook has been
 17 extensively documented and was the subject of an Academy Award-winning film.¹⁹⁷ By the end of
 18 2005, Facebook had expanded its reach to thousands of colleges and high schools in the United
 19 States and abroad. Over the coming years, Facebook grew well beyond campuses, reaching over
 20 100 million total active users by the fall of 2008. By February 2011, Facebook had become the
 21

22 ¹⁹⁴ META3047MDL-003-00157133.

23 ¹⁹⁵ META3047MDL-003-00082165 at META3047MDL-003-00082165 - META3047MDL-003-
 00082166.

24 ¹⁹⁶ Katherine Kaplan, *Facemash Creator Survives Ad Board*, Harvard Crimson (Nov. 19, 2003),
<https://www.thecrimson.com/article/2003/11/19/facemash-creator-survives-ad-board-the/>; Bari
 Schwartz, *Hot or Not? Website Briefly Judges Looks*, Harvard Crimson (Nov. 4, 2003),
<https://www.thecrimson.com/article/2003/11/4/hot-or-not-website-briefly-judges/>; Sam Brodsky,
Everything to Know About Facemash, the Site Zuckerberg Created in College to Rank ‘Hot’ Women, Metro (Apr. 12, 2018), <https://www.metro.us/everything-to-know-about-facemash-the-site-zuckerberg-created-in-college-to-rank-hot-women/>; Noam Cohen (@noamcohen), Twitter
 (Mar. 20, 2018, 3:27 PM).

25 ¹⁹⁷ *The Social Network* (Columbia Pictures 2010).

1 largest online photo host, holding nearly 100 billion photos.¹⁹⁸ And by the end of 2011, Facebook,
 2 Inc. had turned its initial losses into immense profitability, bringing in annual revenues of \$3.7
 3 billion and working with an operating income of \$1.7 billion.¹⁹⁹

4 188. But Facebook knew its future success was not guaranteed. On February 1, 2012,
 5 Facebook, Inc. filed with the SEC for an initial public offering. The company's filing noted that its
 6 historic performance might not continue indefinitely: "A number of other social networking
 7 companies that achieved early popularity have since seen their active user bases or levels of
 8 engagement decline, in some cases precipitously. There is no guarantee that we will not experience
 9 a similar erosion of our active user base or engagement levels. A decrease in user retention, growth,
 10 or engagement could render Facebook less attractive to developers and advertisers, which may have
 11 a material and adverse impact on our revenue, business, financial condition, and results of
 12 operations."²⁰⁰

13 189. Facebook, Inc. also disclosed that the proliferation of smartphones could materially
 14 affect its ongoing prospects. "[O]ur users could decide to increasingly access our products primarily
 15 through mobile devices. We do not currently directly generate any meaningful revenue from the
 16 use of Facebook mobile products, and our ability to do so successfully is unproven. Accordingly,
 17 if users continue to increasingly access Facebook mobile products as a substitute for access through
 18 personal computers, and if we are unable to successfully implement monetization strategies for our
 19 mobile users, our revenue and financial results may be negatively affected."

20 190. Facebook actively pursued changes to its product, including adding design features
 21 offered to the public. As a result of these actions, Facebook achieved its goal. As of October 2021,
 22 Facebook had ballooned to roughly 2.91 billion monthly active users, thus reaching 59% of the
 23

24 ¹⁹⁸ Richard MacManus, *Facebook Mobile Usage Set to Explode*, Read Write Web (Oct. 27 2011),
https://web.archive.org/web/20120520003847/http://www.readwriteweb.com/archives/facebook_mobile_usage_set_to_explode.php; Athima Chansanchai, *One Third of Year's Digital Photos Are on Facebook*, NBC News (Sept. 20, 2011), <https://www.nbcnews.com/news/world/one-third-years-digital-photos-are-facebook-flna120576>.

25 ¹⁹⁹ Erick Schonfeld, *Facebook's Profits: \$1 Billion, On #3.7 Billion in Revenues*, TechCrunch (Feb. 1, 2012), <https://techcrunch.com/2012/02/01/facebook-1-billion-profit/>.

26 ²⁰⁰ Facebook, Inc., Registration Statement (Form S-1) (Feb. 1, 2012) at 11,
<https://www.sec.gov/Archives/edgar/data/1326801/000119312512034517/d287954ds1.html>.

world's social networking population, the only social media product to reach over half of all social media users. At least 6% of these users are children in the U.S. between the ages of 9 and 11.²⁰¹

191. Since its inception, Facebook has implemented several changes, developments, and designs to its product to prolong user engagement and impose alterations to the user experience. As discussed further below, several changes, developments, and designs render the product defective and harmful.

b. Modifications of Facebook's product features over time.

192. When Meta launched thefacebook.com on February 4, 2004, only Harvard students could create accounts using their university-issued email addresses. In March 2004, students at Stanford, Columbia, and Yale were permitted to join, and eventually, any student with a college- or university-issued email address could join Facebook.²⁰² In 2005, Facebook was opened to high school students, provided they were invited by someone who was already using the site.²⁰³ By September 2006, Facebook was opened to all users.²⁰⁴ At the time, Meta claimed that it was open only to persons aged 13 and older with a valid email address.²⁰⁵ However, Meta did not require verification of a user's age or identity and did not verify users' email addresses. As a result, underage users could easily register an account with and access Facebook.

193. At first, Facebook was a collection of personal profiles and single photos. It was described by the *New York Times* as “a fancy electronic version of the whiteboard that students

²⁰¹ Katherine Schaeffer, *7 facts about Americans and Instagram*, Pew Research Center (Oct. 7, 2021), <https://www.pewresearch.org/fact-tank/2021/10/07/7-facts-about-americans-and-instagram/>.

²⁰² Saul Hansell, *Site Previously for Students Will Be Opened to Others*, N.Y. Times (Sept. 12, 2006), <https://www.nytimes.com/2006/09/12/technology/site-Previously-for-students-will-be-opened-to-others.html>.

²⁰³ Ellen Rosen, *THE INTERNET; Facebook.com Goes to High School*, N.Y. Times (Oct. 16, 2005), <https://www.nytimes.com/2005/10/16/nyregion/the-internet-facebookcom-goes-to-high-school.html>.

²⁰⁴ Saul Hansell, *Site Previously for Students Will Be Opened to Others*, N.Y. Times (Sept. 12, 2006), <https://www.nytimes.com/2006/09/12/technology/site-Previously-for-students-will-be-opened-to-others.html>.

²⁰⁵ Saul Hansell, *Site Previously for Students Will Be Opened to Others*, N.Y. Times (Sept. 12, 2006), <https://www.nytimes.com/2006/09/12/technology/site-Previously-for-students-will-be-opened-to-others.html>.

1 often mount on their doors to leave and receive messages.”²⁰⁶ Users could post a single profile
 2 picture, add personal details such as gender, birthdate, phone number, and interests, or connect with
 3 other users by “friending” them, either by searching for them or inviting them by email. Users could
 4 also display their relationship statuses, or, alternatively what they were “[l]ooking for” (e.g.,
 5 friendship, dating, a relationship, “random play,” or “whatever I can get”) and “[i]nterested in”
 6 (e.g., women, men). In September 2004, however, Meta introduced “the Wall,” which allowed
 7 users to interact with “friends” by posting on each other’s profiles. This product feature kept users
 8 returning to Facebook to monitor Wall activity.

9 194. In 2005, Facebook began allowing users to upload an unlimited amount of photos,
 10 making it the first photo hosting website to do so.²⁰⁷

11 195. In 2006, Meta introduced the Newsfeed to Facebook.²⁰⁸ While previously “[e]very
 12 browsing session was like a click-powered treasure hunt,”²⁰⁹ the Newsfeed provided a centralized
 13 home page where users could view their friends’ activity, including any changes to their profiles or
 14 activity on the app, such as, for example, uploading new pictures, or a change in relationship
 15 status.²¹⁰ It was the first “social feed” of its kind, and increased time spent on the product.²¹¹ Users
 16 immediately decried this feature as an invasion of privacy.²¹² Mark Zuckerberg rationalized the
 17

18 ²⁰⁶ Ellen Rosen, *THE INTERNET; Facebook.com Goes to High School*, N.Y. Times (Oct. 16,
 19 2005), <https://www.nytimes.com/2005/10/16/nyregion/the-internet-facebookcom-goes-to-high-school.html>.

20 ²⁰⁷ Craig Kanalley, A History of Facebook Photos (Infographic), The Huffington Post (Aug. 2,
 21 2011), https://www.huffpost.com/entry/facebook-photos-infographic_n_916225.

22 ²⁰⁸ Think Marketing, *This Is How Facebook Has Changed Over the Past 14 Years* (February 6,
 23 2018), <https://thinkmarketingmagazine.com/facebook-celebrates-14-years-of-milestones-a-timeline/>.

24 ²⁰⁹ Jillian D’Onfro, *Facebook’s News Feed is 10 years old. This is how the site has changed*,
 25 World Economic Forum (Sept. 9, 2016), <https://www.weforum.org/agenda/2016/09/facebook-news-feed-is-10-years-old-this-is-how-the-site-has-changed>.

26 ²¹⁰ Jillian D’Onfro, *Facebook’s News Feed is 10 years old. This is how the site has changed*,
 27 World Economic Forum (Sept. 9, 2016), <https://www.weforum.org/agenda/2016/09/facebook-news-feed-is-10-years-old-this-is-how-the-site-has-changed>.

28 ²¹¹ Jillian D’Onfro, *Facebook’s News Feed is 10 years old. This is how the site has changed*,
 29 World Economic Forum (Sept. 9, 2016), <https://www.weforum.org/agenda/2016/09/facebook-news-feed-is-10-years-old-this-is-how-the-site-has-changed>.

30 ²¹² Moneywatch, *Facebook Under Fire for New Feature*, CBS News (Sept. 7, 2006),
<https://www.cbsnews.com/news/facebook-under-fire-for-new-feature/>.

1 feature by saying “we agree, stalking isn’t cool; but being able to know what’s going on in your
 2 friends’ lives is.”²¹³ The Newsfeed algorithm was originally designed to maximize a user’s time
 3 spent in one session. However, Meta later changed the code to maximize as many use sessions as
 4 possible. The frequency of sessions is a strong indicator of problematic use, a point internal
 5 Facebook researchers have made when suggesting that Facebook should “help people consolidate
 6 their use of Facebook into fewer sessions.”²¹⁴ Despite this knowledge, Meta continued to focus on
 7 maximizing sessions, including for teens,²¹⁵ even prioritizing the metric over “integrity”
 8 improvements to its products.²¹⁶

9 196. In May 2007, Meta launched a video service on Facebook, which allowed it to
 10 compete with YouTube and the then-popular Myspace.²¹⁷ Users could upload videos, or record
 11 them from a webcam.

12 197. In April 2008, Meta launched Facebook Chat, which later became Facebook
 13 Messenger, allowing users to have private conversations with each other.²¹⁸ Facebook Chat
 14 appeared as a permanent bar across the bottom of users’ screens; it also provided users the ability
 15 to see which friends were “online” and presumably available to chat. Facebook Chat allowed users
 16 to immerse themselves even deeper into Meta’s product; one commentator noted that “[b]y making
 17 Facebook more real time/presence oriented, Facebook session length should go up a lot.”²¹⁹

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²¹³ Gillian D’Onfro, *Facebook’s News Feed is 10 years old. This is how the site has changed*,
 21 World Economic Forum (Sept. 9, 2016), <https://www.weforum.org/agenda/2016/09/facebook-news-feed-is-10-years-old-this-is-how-the-site-has-changed>.

22 ²¹⁴ Haugen_00010114 at Haugen_00010121.

23 ²¹⁵ See, e.g., META3047MDL-003-00161881 at META3047MDL-003-00161915 (highlighting
 24 moderate decline in sessions among teen Instagram users in the United States)

25 ²¹⁶ See META3047MDL-003-00170806 at META3047MDL-003-00170822 (Instagram sessions
 26 “cannot decrease”).

27 ²¹⁷ Pete Cashmore, *Facebook Video Launches: YouTube Beware!*, Mashable (May 24, 2007),
 28 <https://mashable.com/archive/facebook-video-launches>.

²¹⁸ Dan Farber, *Facebook Chat begins to roll out*, CNET (April 6, 2008),
<https://www.cnet.com/culture/facebook-chat-begins-to-roll-out/>.

²¹⁹ Dan Farber, *Facebook Chat begins to roll out*, CNET (April 6, 2008),
<https://www.cnet.com/culture/facebook-chat-begins-to-roll-out/>.

1 198. In May 2008, Meta added a “People You May Know” feature to the product, touting
 2 it as a way to “connect [users] to more of your friends” on Facebook.²²⁰ Facebook’s algorithms
 3 utilize the vast amount of data it collects from its users to suggest users for “friending” to each
 4 other.²²¹ It utilizes information such as a user’s friends list, their friends’ friends list, education
 5 information, and work information, along with other data, to make these suggestions.²²² Some users
 6 dislike the feature, complaining that it constantly shows them people they do not want to friend, or
 7 even suggests people in sexually explicit poses,²²³ but Facebook does not provide the option to
 8 disable this feature.

9 199. In February 2009, Meta launched the “Like” button on Facebook.²²⁴ The button
 10 allowed users to quickly react to content, as opposed to typing out a comment. Facebook’s
 11 algorithm counts and displays likes to other users. The measure also served as a social measuring
 12 stick, by which users could gauge the success of their posts, photographs, and videos. Soon after,
 13 Meta expanded the “Like” feature to comments as well. Users could also use the “Like” button to
 14 follow public figures, such as brands or publishers. When a user liked a brand, for example, Meta
 15 would use that information to show ads for that brand to the user’s friends on Facebook.²²⁵ In April
 16 2010, Meta launched “social plug-ins” that would allow people to “Like” things on the Internet
 17

18 ²²⁰ Kashmir Hill, ‘*People You May Know:*’ A Controversial Facebook Feature’s 10-Year History,
 19 Gizmodo (Aug. 8, 2018), <https://gizmodo.com/people-you-may-know-a-controversial-facebook-features-1827981959>.

20 ²²¹ Kashmir Hill, ‘*People You May Know:*’ A Controversial Facebook Feature’s 10-Year History,
 21 Gizmodo (Aug. 8, 2018), <https://gizmodo.com/people-you-may-know-a-controversial-facebook-features-1827981959>.

22 ²²² Kashmir Hill, ‘*People You May Know:*’ A Controversial Facebook Feature’s 10-Year History,
 23 Gizmodo (Aug. 8, 2018), <https://gizmodo.com/people-you-may-know-a-controversial-facebook-features-1827981959>.

24 ²²³ Kashmir Hill, ‘*People You May Know:*’ A Controversial Facebook Feature’s 10-Year History,
 25 Gizmodo (Aug. 8, 2018), <https://gizmodo.com/people-you-may-know-a-controversial-facebook-features-1827981959>.

26 ²²⁴ Will Oremus, *How Facebook Designed the Like Button—and made social media into a Popularity Contest*, Fast Company (Nov. 15, 2022),
 27 <https://www.fastcompany.com/90780140/the-inside-story-of-how-facebook-designed-the-like-button-and-made-social-media-into-a-popularity-contest>.

28 ²²⁵ Will Oremus, *How Facebook Designed the Like Button—and made social media into a Popularity Contest*, Fast Company (Nov. 15, 2022),
 29 <https://www.fastcompany.com/90780140/the-inside-story-of-how-facebook-designed-the-like-button-and-made-social-media-into-a-popularity-contest>.

1 outside of Facebook. Meta used the button to track Facebook users' engagement across the Internet,
 2 leveraging the data it gathered to target ads and fuel the Newsfeed algorithm.²²⁶ The button also
 3 shaped users' own behavior, as they were conditioned to act and interact in whatever ways would
 4 generate the like rewards, or risk having their content hidden from their friends' newsfeeds.²²⁷

5 200. 2009 also marked the change from chronological to algorithmic ordering for the
 6 news feed, with Meta now dictating which posts users would see by highlighting "Top Stories" in
 7 each user's News Feed.²²⁸

8 201. In December 2010, Meta began using facial recognition to identify people in users'
 9 Facebook photos and suggest that users tag them.²²⁹ Rather than letting users opt-in to the feature,
 10 Meta automatically enabled it for all users.²³⁰

11 202. Meta also debuted infinite scrolling in 2010, initially for photos specifically, but
 12 later for its core News Feed, ensuring that users would never reach the bottom of a page and would,
 13 instead, keep scrolling without end or limits, leading to excessive and compulsive product use.²³¹

14 203. In August 2012, Meta introduced the Facebook Messenger app, a feature that
 15 allowed users to see when their friends were last active on the product.²³²

16

17 ²²⁶ Will Oremus, *How Facebook Designed the Like Button—and made social media into a*
 18 *Popularity Contest*, Fast Company (Nov. 15, 2022),
<https://www.fastcompany.com/90780140/the-inside-story-of-how-facebook-designed-the-like-button-and-made-social-media-into-a-popularity-contest>.

19 ²²⁷ Will Oremus, *How Facebook Designed the Like Button—and made social media into a*
 20 *Popularity Contest*, Fast Company (Nov. 15, 2022),
<https://www.fastcompany.com/90780140/the-inside-story-of-how-facebook-designed-the-like-button-and-made-social-media-into-a-popularity-contest>.

21 ²²⁸ Alex Hern, *Facebook to Restore Chronological Feed of Posts from Friends*, The Guardian
 22 (July 21, 2022), <https://www.theguardian.com/technology/2022/jul/21/facebook-to-restore-chronological-feed-of-posts-from-friends>.

23 ²²⁹ Ben Parr, *Facebook Brings Facial Recognition to Photo Tagging*, Mashable (Dec. 16, 2010),
<http://www.cnn.com/2010/TECH/social.media/12/16/facebook.facial.recognition.mashable/index.html>.

24 ²³⁰ Charles Arthur, *Facebook In New Privacy Row Over Facial Recognition Feature*, The
 25 Guardian (June 8, 2011), <https://www.theguardian.com/technology/2011/jun/08/facebook-privacy-facial-recognition?INTCMP=SRCH>.

26 ²³¹ Bob Leggit, *How the Internet Destroyed Your Attention Span*, Popzazzle (Apr. 30, 2021),
<https://popzazzle.blogspot.com/2021/04/how-the-internet-destroyed-your-attention-span.html>.

27 ²³² Billy Gallagher, *Facebook Brings Notifications, Album-Specific Uploads to Standalone Camera App*, Tech Crunch (Aug. 28, 2012), <https://techcrunch.com/2012/08/28/facebook-brings-notifications-to-camera-app/>.

1 204. In August 2015, Meta launched Facebook Live, which allowed users to live-stream
 2 videos.²³³ It immediately prompted more engagement with the platform and furthered Meta's goal
 3 of keeping users coming back, both to create the videos and to interact with them.²³⁴

4 205. In February 2016, Meta expanded Facebook's "Like" feature for posts, adding
 5 "Reactions" such as "like," "love," "haha," "wow," "sad," and "angry."²³⁵ The following year,
 6 reactions were extended to comments.²³⁶ In a manner similar to likes, these reactions further
 7 manipulated adolescents' behavior, thus impacting their mental health and well-being and causing
 8 damage and harm to certain Plaintiffs herein.

9 206. In March 2017, following the launch of a similar product on Instagram, Meta
 10 introduced Facebook Stories, with the hope of competing with the success of Snapchat among
 11 young people.²³⁷ With Stories, users could post short, ephemeral videos that appeared for 24-hours
 12 at the top of friends' News Feeds.²³⁸ Stories is designed to keep users coming back to the platform
 13 at least daily, feeding performance metrics that are crucial to Meta's bottom line, or otherwise risk
 14 missing out.

15 207. Later that year, in December 2017, Meta rolled out Facebook Kids, a messaging app
 16 designed for kid's ages 6 to 12,²³⁹ for the purpose of getting younger users on its product sooner.

17 [notifications-album-specific-uploads-to-standalone-camera-app/?cid=tc_dan-schawbel_art&blogger=dan-schawbel#.](https://www.fastcompany.com/3064182/the-untold-story-of-facebook-live?cid=tc_dan-schawbel_art&blogger=dan-schawbel#.)

18 ²³³ Joe Lanzauskus, *The Untold Story of Facebook Live*, Fast Company (Sept. 29, 2016),
<https://www.fastcompany.com/3064182/the-untold-story-of-facebook-live>.

19 ²³⁴ Joe Lanzauskus, *The Untold Story of Facebook Live*, Fast Company (Sept. 29, 2016),
<https://www.fastcompany.com/3064182/the-untold-story-of-facebook-live>.

20 ²³⁵ Casey Newton, *Facebook Rolls Out Expanded Like Button Reactions Around the World*, The
 Verge (Feb. 24, 2016), <https://www.theverge.com/2016/2/24/11094374/facebook-reactions-like-button>.

21 ²³⁶ Natt Garun, *Facebook Reactions Have Now Infiltrated Comments*, The Verge (May 3, 2017),
<https://www.theverge.com/2017/5/3/15536812/facebook-reactions-now-available-comments>.

22 ²³⁷ Casey Newton, *Facebook Launches Stories to Complete its All-out Assault on Snapchat*, The
 Verge (Mar. 28, 2017), <https://www.theverge.com/2017/3/28/15081398/facebook-stories-snapchat-camera-direct>.

23 ²³⁸ Casey Newton, *Facebook Launches Stories to Complete its All-out Assault on Snapchat*, The
 Verge (Mar. 28, 2017), <https://www.theverge.com/2017/3/28/15081398/facebook-stories-snapchat-camera-direct>.

24 ²³⁹ Nick Statt, *Facebook Launches a Version of Messenger for Young Children*, The Verge (Dec.
 4, 2017), <https://www.theverge.com/2017/12/4/16725494/facebook-messenger-kids-app-launch-ios-iphone-preview>.

1 The app does not require a Facebook account, since COPPA prohibits users under the age of 13
 2 from signing up for such accounts, and instead allows children to create accounts that are managed
 3 through parents' Facebook accounts.²⁴⁰ Meta touted it as a way to "give[] parents more control."²⁴¹
 4 The app, however, still collects an extraordinary amount of data about its child users, including the
 5 content of their messages, any photos they send, and what features they use on the app.²⁴² Currently,
 6 there are no other official Facebook products marketed publicly by Meta as intended for children
 7 under 13 (despite the proliferation of such users on Instagram and Facebook). However, as of April
 8 2021 Meta was actively seeking to develop ways for children as young as 6 to use the product.²⁴³

9 208. In August 2020, Meta introduced "Reels" on Instagram.²⁴⁴ Reels are short videos
 10 posted by other Instagram users, presented in an algorithmically generated feed, and in a full-screen
 11 format popularized by TikTok. Meta subsequently introduced Reels to Facebook in 2021.²⁴⁵ As
 12 explained more fully below, Meta committed to making videos more and more a part of their
 13 platforms to attract and keep younger users in the face of competition from TikTok.

14 c. **Facebook's acquisition and control of Instagram.**

15 209. On or around April 6, 2012, Zuckerberg called Kevin Systrom, one of the co-
 16 founders of Instagram, offering to purchase his company.²⁴⁶

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²⁴⁰ Nick Statt, *Facebook Launches a Version of Messenger for Young Children*, The Verge (Dec.
 19 4, 2017), <https://www.theverge.com/2017/12/4/16725494/facebook-messenger-kids-app-launch-ios-iphone-preview>.

20 ²⁴¹ Loren Chang, *Introducing Messenger Kids, a New App for Families to Connect*, Meta (Dec. 4,
 21 2017), <https://about.fb.com/news/2017/12/introducing-messenger-kids-a-new-app-for-families-to-connect/>.

22 ²⁴² Nitasha Tiku, *Facebook for 6-Year-Olds? Welcome to Messenger Kids*, Wired (Dec. 5, 2017),
<https://www.wired.com/story/facebook-for-6-year-olds-welcome-to-messenger-kids/>.

23 ²⁴³ Ezra Kaplan and Jo Ling Kent, *Documents reveal Facebook targeted children as young as 6 for consumer base*, NBC News (Oct. 29, 2021), https://www.nbcnews.com/tech/social-media/facebook-documents-reveal-company-targeted-children-young-6-rcna4021?cid=sm_npd_nn_tw_ma.

24 ²⁴⁴ Instagram, *Introducing Instagram Reels* (Aug. 5, 2020),
<https://about.fb.com/news/2020/08/introducing-instagram-reels/>.

25 ²⁴⁵ Facebook, *Launching Reels on Facebook in the US* (Sept. 29, 2021),
<https://about.fb.com/news/2021/09/launching-reels-on-facebook-us/>.

26 ²⁴⁶ Nicholas Carlson, *Here's The Chart That Scared Zuckerberg Into Spending \$1 Billion On Instagram*, Insider (Apr. 14, 2012), <https://www.businessinsider.com/heres-the-chart-that-scared-zuckerberg-into-spending-1-billion-on-instagram-2012-4>.

1 210. Instagram launched as a mobile-only app that allowed users to create, filter, and
 2 share photos. On the first day of its release in October 2010, it gained a staggering 25,000 users.²⁴⁷
 3 By April 2012, Instagram had approximately 27 million users. When Instagram released an
 4 Android version of its app—right around the time of Zuckerberg’s call—it was downloaded more
 5 than a million times in less than a day.²⁴⁸ Instagram’s popularity is so widespread and image-based,
 6 a new term has grown up around it for the perfect image or place: “Instagrammable.”²⁴⁹

7 211. On April 9, 2012, just days after Zuckerberg’s overture to Systrom, Facebook, Inc.
 8 purchased Instagram, Inc. for \$1 billion in cash and stock. This purchase price was double the
 9 valuation of Instagram implied by a round of funding the company closed days earlier.²⁵⁰

10 212. Facebook, Inc. held its initial public offering less than two months after acquiring
 11 Instagram, Inc.²⁵¹

12 213. Zuckerberg’s willingness to pay a premium for Instagram was driven by his instinct
 13 that Instagram would be vital to reaching a younger, smartphone-oriented audience—and thus
 14 critical to his company’s going-forward success.

15 214. This was prescient. Instagram’s revenue grew exponentially from 2015 to 2022.²⁵²
 16 A study conducted in the second quarter of 2018 showed that, over the prior year, advertisers’
 17 spending on Instagram grew by 177%—more than four times the growth of ad spending on

18 247 Dan Blystone, *Instagram: What It Is, Its History, and How the Popular App Works*,
 19 Investopedia (Oct. 22, 2022), <https://www.investopedia.com/articles/investing/102615/story-instagram-rise-1-photo0sharing-app.asp#:~:text=History%20of%20Instagram>.

20 248 Kim-Mai Cutler, *From 0 to \$1 billion in two years: Instagram’s rose-tinted ride to glory*
 21 TechCrunch (Apr. 9, 2012), <https://techcrunch.com/2012/04/09/instagram-story-facebook-acquisition/>.

22 249 Sarah Frier, *No Filter* 81 (2020).

23 250 Alexia Tsotsis, *Right Before Acquisition, Instagram Closed \$50M At A \$500M Valuation From Sequoia, Thrive, Greylock And Benchmark*, TechCrunch (Apr. 9, 2012),
<https://techcrunch.com/2012/04/09/right-before-acquisition-instagram-closed-50m-at-a-500m-valuation-from-sequoia-thrive-greylock-and-benchmark/>.

25 251 Evelyn Rusli & Peter Eavis, *Facebook Raises \$16Billion in I.P.O.*, N.Y. Times (May 17, 2012), <https://archive.nytimes.com/dealbook.nytimes.com/2012/05/17/facebook-raises-16-billion-in-i-p-o/>.

26 252 See Josh Constine, *Instagram Hits 1 Billion Monthly Users, Up From 800M in September*, TechCrunch (June 20, 2018), <https://techcrunch.com/2018/06/20/instagram-1-billion-users/> (showing meteoric rise in monthly active users over period and reporting year-over-year revenue increase of 70% from 2017-2018).

1 Facebook.²⁵³ Likewise, visits to Instagram rose by 236%, nearly *thirty* times the growth in site visits
 2 experienced by Facebook during the same period.²⁵⁴ By 2021, Instagram accounted for over half
 3 of Meta's \$50.3 billion in net advertising revenues.²⁵⁵

4 215. Meta has claimed credit for Instagram's success since its acquisition. Zuckerberg
 5 told market analysts that Instagram "wouldn't be what it is without everything that we put into it,
 6 whether that's the infrastructure or our advertising model."²⁵⁶

7 216. Instagram has become the most popular photo-sharing social media product among
 8 teenagers and young adults in the United States. 62% of American teens use Instagram, with 10%
 9 of users reporting that they use it "almost constantly."²⁵⁷ Instagram's young user base has become
 10 even more important to Meta as the number of teens using Facebook has decreased over time.²⁵⁸

11 217. Facebook's and Instagram's success, and the riches they have generated for Meta,
 12 have come at an unconscionable cost in human suffering. In September 2021, The Wall Street
 13 Journal began publishing internal documents leaked by former Facebook product manager Frances
 14 Haugen.²⁵⁹

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 16
 17 ²⁵³ Merkle, *Digital Marketing Report 3* (Q2 2018), <https://www.merkleinc.com/thought-leadership/digital-marketing-report/digital-marketing-report-q2-2018>.

18 ²⁵⁴ Merkle, *Digital Marketing Report 19* (Q2 2018), <https://www.merkleinc.com/thought-leadership/digital-marketing-report/digital-marketing-report-q2-2018>.

19 ²⁵⁵ Sara Lebow, *For the First Time, Instagram Contributes Over Half of Facebook's US Ad Revenues*, eMarketer (Nov. 2, 2021), <https://www.emarketer.com/content/instagram-contributes-over-half-of-facebook-us-ad-revenues>.

20 ²⁵⁶ Salvador Rodriguez, *Mark Zuckerberg Is Adamant that Instagram Should Not Be Broken Off from Facebook*, CNBC (Oct. 20, 2019), <https://www.cnbc.com/2019/10/30/mark-zuckerberg-is-adamant-that-instagram-should-remain-with-facebook.html>.

21 ²⁵⁷ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Research Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>; see also Piper Sandler, *Taking Stock With Teens 19* (Fall 2021), https://piper2.bluematrix.com/docs/pdf/3bad99c6-e44a-4424-8fb1-0e3adfcbd1d4.pdf?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosam&stream=top (eighty-one percent of teens use Instagram at least once a month).

22 ²⁵⁸ Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its 'Pipeline': Young Users*, N.Y. Times (Oct. 26, 2021), available at <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

23 ²⁵⁹ The collection of Wall Street Journal articles are available online via the following link: <https://www.wsj.com/articles/the-facebook-files-11631713039?mod=bigtop-breadcrumb>.

1 218. The documents are disturbing. They reveal that, according to Meta's researchers,
 2 13.5% of U.K. girls reported more frequent suicidal thoughts and 17% of teen girls reported
 3 worsening eating disorders after starting to use Instagram.²⁶⁰ Over 40% of Instagram users who
 4 reported feeling "unattractive" said that feeling began while using Instagram,²⁶¹ and 32% of teen
 5 girls who already felt bad about their bodies felt even worse because of the app.²⁶²

6 219. Internal Meta presentations from 2019 and 2020 were unsparing in their conclusions
 7 about the harms caused by Instagram: "We make body image issues worse for one in three teen
 8 girls." "Mental health outcomes related to this can be severe." "Aspects of Instagram exacerbate
 9 each other to create a perfect storm."²⁶³

10 220. Haugen's revelations made clear to the public what Meta has long known: in an
 11 effort to addicts kids and promote usage, Meta's products exploit the neurobiology of developing
 12 brains, and all the insecurities, status anxieties, and beauty comparisons that come along with it. In
 13 a bid for higher profits, Meta ignored the harms resulting from its overuse-oriented business model,
 14 which are widespread, serious, long-term, and in tragic instances fatal.

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18 ²⁶⁰ Morgan Keith, *Facebook's Internal Research Found its Instagram Platform Contributes to*
 19 *Eating Disorders and Suicidal Thoughts in Teenage Girls, Whistleblower Says*, Insider (Oct. 3,
 2021), <https://www.businessinsider.com/facebook-knows-data-instagram-eating-disorders-suicidal-thoughts-whistleblower-2021-10>.

20 ²⁶¹ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for*
 21 *Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021),
<https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; Facebook Staff, *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.* 9 (Mar. 26, 2020),
<https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>.

22 ²⁶² Billy Perrigo, *Instagram Makes Teen Girls Hate Themselves. Is That a Bug or a Feature?*, Time (Sept. 16, 2021), <https://time.com/6098771/instagram-body-image-teen-girls/>.

23 ²⁶³ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for*
 24 *Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021),
<https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall St. J. (Sept. 29, 2021),
<https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>.

d. Modifications of Instagram's product features over time.

221. In its earliest form, Instagram was a photo-sharing app. Users could post still images—enhanced by the product’s suite of built-in photo filters—“follow” other users, and “Like” or comment on posts by other users, all in a centralized chronological feed. Instagram also allowed users to see their friends’ activity—such as liking or commenting on a post, or following other accounts—on the app, through its “Following” tab.

^{222.} In January 2011, Instagram added hashtags, which allowed users to group together posts about particular topics.²⁶⁴

223. Since acquiring Instagram, Meta has introduced to the product a host of additional features to drive pre-teen and teenage engagement and, in doing so, increase advertising revenues.

224. In June 2013, in addition to the still, filtered images for which the product was known, Instagram began to support videos of up to 15 seconds.²⁶⁵ This feature also included 13 new specially-created filters that could be applied to the videos. At the time, this feature satisfied what some characterized as the “years-long search for an ‘Instagram for video,’”²⁶⁶ and allowed Instagram to compete with a popular video-sharing product at the time, Vine. It also allowed users posting videos to select their “favorite” scene from the video to be displayed as the cover image on video posts. According to Systrom, this ensured that user’s videos were “beautiful even when they’re not playing.”²⁶⁷ Despite this, Instagram remained largely a photo-sharing app.

225. In December 2013, Meta added Instagram Direct, a feature that allows users to send messages or posts to specific people directly from the app.²⁶⁸ This function allowed Instagram to

²⁶⁴ *Diving Deep into the Science of the Instagram Algorithm*, Signalystics, <https://about.fb.com/news/2020/08/introducing-instagram-reels/>

²⁶⁵ Colleen Taylor, *Instagram Launches 15-Second Video Sharing Feature, With 13 Filters And Editing*, Tech Crunch (June 20, 2013), <https://techcrunch.com/2013/06/20/facebook-instagram-video/>.

²⁶⁶ Colleen Taylor, *Instagram Launches 15-Second Video Sharing Feature, With 13 Filters And Editing*, Tech Crunch (June 20, 2013), <https://techcrunch.com/2013/06/20/facebook-instagram-video/>.

²⁶⁷ Kevin Systrom, *Introducing Video on Instagram*, Instagram (June 20, 2013), <https://about.instagram.com/blog/announcements/introducing-video-on-instagram>.

²⁶⁸ Jordan Crook, *Instagram Introduces Instagram Direct*, Tech Crunch (Dec. 12, 2013), <https://techcrunch.com/2013/12/12/instagram-messaging/>.

1 compete against messaging products like Snapchat that were gaining popularity among teens and
 2 pre-teens.

3 226. In June 2015, Meta opened Instagram to all advertisers, weaving advertisements into
 4 users' Feeds.²⁶⁹

5 227. In March 2016, Meta did away with Instagram's chronological feed and
 6 implemented engagement-based ranking algorithms.²⁷⁰ Now, upon opening the app, users would
 7 no longer see posts from people they followed in the order they were posted; instead, they would
 8 encounter an algorithmic feed, similar to the one employed on Meta's other product, Facebook. At
 9 the time, Meta said that the new algorithmic feed would rank the order of posts in users' feeds
 10 based on the "likelihood that [they would] be interested in the content, [their] relationship with the
 11 person posting and the timeliness of the post. . . ."²⁷¹

12 228. In February 2016, with the popularity of video content rising on Instagram, Meta
 13 added view counts to videos, allowing users to see how many times users had viewed their posts.²⁷²
 14 Later that year, in December 2016, Instagram added the ability to "Like" comments to posts
 15 (symbolized by a heart emoji).²⁷³ Both features became a source of additional motivation by users
 16 to seek social acceptance and validation.

17 229. In August 2016, Meta introduced Instagram Stories,²⁷⁴ another feature intended to
 18 compete against Snapchat for the youth market. Systrom has admitted that the feature was copied
 19

20 ²⁶⁹ Vindu Goel & Sydney Ember, *Instagram to Open its Photo Feed to Ads*, N.Y. Times (June 2,
 21 2015), <https://www.nytimes.com/2015/06/03/technology/instagram-to-announce-plans-to-expand-advertising.html>.

22 ²⁷⁰ Alex Heath, *Instagram is about to go through its most radical change ever*, Insider (Mar. 15,
 23 2016), <https://www.businessinsider.com/instagram-to-introduce-algorithmic-timeline-2016-3>.

24 ²⁷¹ Alex Heath, *Instagram is about to go through its most radical change ever*, Insider (Mar. 15,
 25 2016), <https://www.businessinsider.com/instagram-to-introduce-algorithmic-timeline-2016-3>.

26 ²⁷² Michael Zhang, *Instagram is Adding View Counts to Your Videos*, PetaPixel (Feb. 11, 2016),
 27 <https://petapixel.com/2016/02/11/instagram-adds-view-counts-videos/>.

28 ²⁷³ Hayley Tsukayama, *Instagram will soon let you like comments – or even turn them off completely*, Wash. Post (Dec. 6, 2016), <https://www.washingtonpost.com/news/the-switch/wp/2016/12/06/instagram-will-soon-let-you-like-comments-or-even-turn-them-off-completely/>.

29 ²⁷⁴ Instagram, *Introducing Instagram Stories* (Aug. 2, 2016),
 30 <https://about.instagram.com/blog/announcements/introducing-instagram-stories>

1 from a Snapchat feature popular with children called “Snapchat Stories.”²⁷⁵ Later that year, in
 2 November 2016, Meta introduced another feature, Instagram Live,²⁷⁶ designed to compete with
 3 both Snapchat’s ephemeral, disappearing posts, and the live-streamed videos of a then-popular
 4 product called Periscope. Live permitted users to live stream video, which disappeared as soon as
 5 the live stream stopped.

6 230. In December 2016, Meta introduced a product feature that allowed users to “save”
 7 posts from other users.²⁷⁷ By tapping a bookmark icon underneath posts in their feeds, users could
 8 save posts for later, in a private tab that was viewable only to the saving user.

9 231. In April 2017, Meta introduced another feature with appeal to children, an offline
 10 mode that allows users to view posts and interact with Instagram even when they do not have access
 11 to an Internet connection,²⁷⁸ for example when riding a bus to or from school.

12 232. In January 2018, Meta launched a feature allowing Instagram users to see when
 13 others they had messaged with were active, or most recently active, on Instagram. This feature
 14 exploits social reciprocity which, as explained above, results in more time spent using the product.

15 233. In June 2018, at the same time it announced that Instagram had grown to one billion
 16 users, Meta introduced IGTV, both in the Instagram app and as a standalone product.²⁷⁹ IGTV was
 17 intended to rival YouTube. IGTV allowed users to upload videos up to one-hour long.

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21 [stories#:~:text=Today%2C%20we're%20introducing%20Instagram,a%20slideshow%20format%3A%20your%20story.](#)

22 ²⁷⁵ Rachel Kraus, *Instagram Founder Admits He Blatantly Stole Stories from Snapchat*, Mashable
 23 (Mar. 11, 2019), <https://mashable.com/article/kevin-systrom-instagram-stories-snapchat>; Sheera
 24 Frenkel et al., *Instagram Struggles With Fears of Losing Its ‘Pipeline’: Young Users*, N.Y. Times
 25 (Oct. 16, 2021), <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

26 ²⁷⁶ Josh Constine, *Instagram launches disappearing Live video and messages*, Tech Crunch (Nov.
 27 21, 2016), <https://techcrunch.com/2016/11/21/instagram-live/>.

28 ²⁷⁷ Lisa Eadicicco, *Instagram Just Added a New Feature that Lets You Save Other Users’ Posts*,
 29 Time (Dec. 14, 2016), <https://time.com/4602063/instagram-new-update-features-2016/>.

29 ²⁷⁸ Josh Constine, *Instagram on Android gets offline mode*, Tech Crunch (Apr. 18, 2017),
 30 <https://techcrunch.com/2017/04/18/instagram-offline/>.

30 ²⁷⁹ Kevin Systrom, *Welcome to IGTV, our New Video App*, Instagram (June 20, 2018),
 31 <https://about.instagram.com/blog/announcements/welcome-to-igtv>.

1 234. In September 2018, Systrom and Instagram co-founder Mike Krieger resigned from
 2 Instagram, and Facebook named Adam Mosseri, a 10-year veteran of Facebook, as Instagram's
 3 new CEO.

4 235. Under Mosseri's leadership, Instagram aggressively focused on acquiring and
 5 maximizing the engagement of young users. In 2018, Instagram allotted most of its global annual
 6 marketing budget to targeting 13- to 15-year old children, a marketing demographic it calls "early
 7 high school."²⁸⁰ According to Meta, these users represent the platform's "teen foothold" for its "US
 8 pipeline."²⁸¹ "Youth and Teens are critically important to Instagram. While Instagram has strong
 9 market-fit with Teens, we know we need to constantly 're-win' this segment."²⁸² Meta has expressly
 10 sought to maximize metrics like "teen time spent" on the Instagram product.²⁸³

11 236. One way Meta sought to increase its teen metrics was through its launch of "Reels"
 12 in August 2020, which mimicked the format of videos on TikTok. As noted, Reels mirrors TikTok
 13 by algorithmically presenting short, "full-screen" videos posted by other Instagram users. Like
 14 TikTok, Reels counts and displays the number of likes, follows, comments, shares, and views of a
 15 video. The following year, Meta did away with IGTV, which had allowed longer videos to be
 16 posted by users in a more traditional format. In late July 2022, Mosseri announced that "more and
 17 more of Instagram is going to become video over time."²⁸⁴

18 237. Instagram creates images and GIFs for users to incorporate into their videos and
 19 picture postings. Instagram has also acquired publishing rights to thousands of hours of music and
 20 video which it provides to its users to attach to the videos and pictures that they post on Instagram.

21 ²⁸⁰ Sheera Frenkel et al., *Instagram Struggles With Fears of Losing Its 'Pipeline': Young Users*,
 22 N.Y. Times (Oct. 16, 2021), <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

23 ²⁸¹ Sheera Frenkel et al., *Instagram Struggles With Fears of Losing Its 'Pipeline': Young Users*,
 24 N.Y. Times (Oct. 16, 2021), <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

25 ²⁸² META3047MDL-003-00030070 at META3047MDL-003-00030071.

26 ²⁸³ Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its 'Pipeline': Young Users*, N.Y. Times (Oct. 26, 2021), available
 27 at <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

28 ²⁸⁴ Marisa Dellatto, *Instagram Exec Defends Shift to Video Despite Complaints from Creators like Kylie Jenner*, Forbes (July 26, 2022),
<https://www.forbes.com/sites/marisadellatto/2022/07/26/instagram-exec-defends-shift-to-video-despite-complaints-from-creators-like-kylie-jenner/?sh=4099badd5c6e>.

1 **2. Meta intentionally encourages youth to use its products and then
leverages that usage to increase revenue.**

2

3 238. Facebook and Instagram owe their success to their defective design, including their
4 underlying computer code and algorithms, and to Meta's failure to warn Plaintiffs and Consortium
5 Plaintiffs that the products present serious safety risks. Meta's tortious conduct begins before a user
6 has viewed, let alone posted, a single scrap of content.

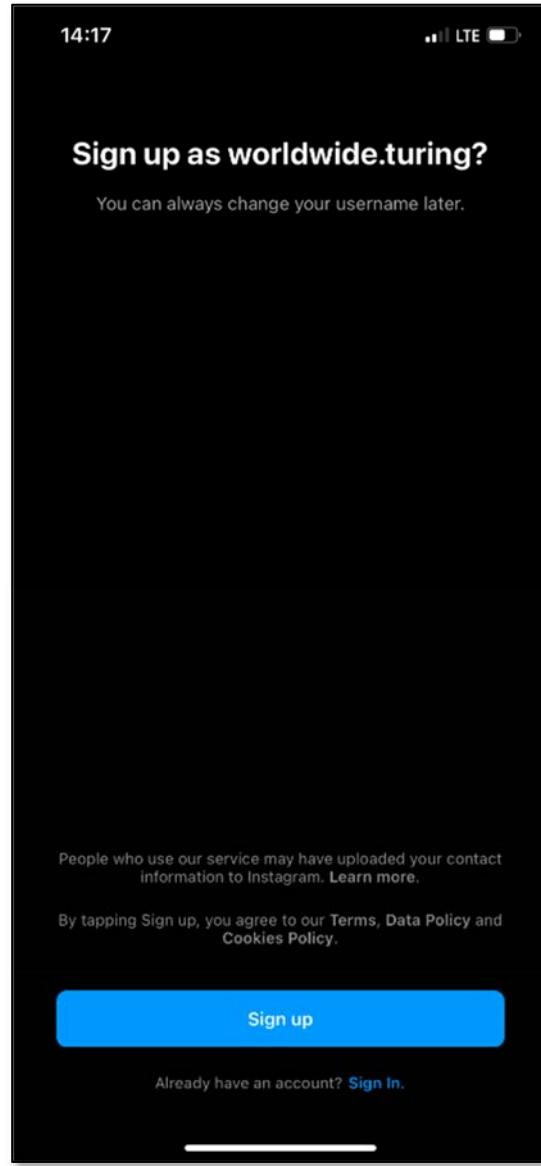
7 239. Meta describes the Instagram product as a "mobile-first experience."²⁸⁵ Indeed, the
8 great majority of Instagram users in the U.S. access Instagram through a mobile application for
9 either the iOS or Android operating system.

10 240. In order to use the Facebook or Instagram app, one must first obtain it. On a mobile
11 device, this is accomplished by visiting a store from which the product can be downloaded—either
12 the Apple App Store (for iPhone users) or the Google Play Store (for Android users). Once installed
13 onto an individual's smartphone, they can open the app. They are then asked to create a new account
14 by entering an email address, adding a name, and creating a password and username.

15 241. A prospective Instagram or Facebook user is then invited to press a colorful button
16 that says "Sign up." In small print above this button, the user is informed: "By tapping Sign up,
17 you agree to our Terms, Data Policy and Cookies Policy." The text of those policies is not presented
18 on the sign-up page. While the words "Terms," "Data Policy," and "Cookies Policy" are slightly
19 bolded, the user is not informed that they can or should click on them, or otherwise told how they
20 can access the policies.

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28 ²⁸⁵ Yorgos Askalidis, *Launching Instagram Messaging on Desktop*, Instagram (Sept. 25, 2020),
<https://about.instagram.com/blog/engineering/launching-instagram-messaging-on-desktop>.



242. Meta's Data Policy (rebranded as a "Privacy Policy" in 2022), which applies to a raft of Meta apps, including Facebook and Instagram,²⁸⁶ indicates Meta collects a breathtaking amount of data from the users of its products, including:

- 23 a. "[c]ontent that you create, such as posts, comments or audio;"
- 24 b. "[c]ontent you provide through our camera feature or your camera roll settings, or through our voice-enabled features;"

27
28

28⁶ Meta, *Privacy Policy*, Meta (Jan. 1 2023),
<https://mbasic.facebook.com/privacy/policy/printable/#annotation-1>.

- c. “[I]nformation you've shared with us through device settings, such as GPS location, camera access, photos and related metadata;”
- d. “[m]essages that you send and receive, including their content;”
- e. “Metadata about content and messages;”
- f. “[t]ypes of content that you view or interact with, and how you interact with it;”
- g. “[t]he time, frequency and duration of your activities on our products;”
- h. “your contacts' information, such as their name and email address or phone number, if you choose to upload or import it from a device, such as by syncing an address book;”
- i. information about “What you're doing on your device (such as whether our app is in the foreground or if your mouse is moving);”
- j. “device signals from different operating systems,” including “things such as nearby Bluetooth or Wi-Fi connections;”
- k. “[i]nformation about the network that you connect your device to,” which includes “The name of your mobile operator or Internet service provider (ISP), Language, Time zone, Mobile phone number, IP address, Connection speed, Information about other devices that are nearby or on your network, Wi-Fi hotspots you connect to using our products;” and
- l. “information from . . . third parties, including . . . [m]arketing and advertising vendors and data providers, who have the rights to provide us with your information.”

23 243. While the Data Policy indicates the scope of user information collected by Meta
24 through Facebook and Instagram, it is far less forthcoming about the purposes for which this data
25 is collected, and its consequences for younger users.

26 244. The Data Policy presents those goals as benign and even positive for its users—"to
27 provide a personalized experience to you" and to "make suggestions for you such as people you
28 may know, groups or events that you may be interested in or topics that you may want to follow."

1 245. The Data Policy does not inform users, and did not inform Plaintiffs, that the more
 2 time individuals spend using Facebook and Instagram, the more ads Meta can deliver and the more
 3 money it can make, or that the more time users spend on Facebook and Instagram, the more Meta
 4 learns about them, and the more it can sell to advertisers the ability to micro-target highly
 5 personalized ads.²⁸⁷

6 246. Meta monetizes its users and their data by selling ad placements to marketers. Meta
 7 generated \$69.7 billion from advertising in 2019, more than 98% of its total revenue for the year.²⁸⁸

8 247. Given its business model, Meta has every incentive to—and knowingly does—
 9 addict users to Facebook and Instagram. It accomplishes this through the algorithms that power its
 10 apps, which are designed to induce compulsive and continuous scrolling for hours on end, operating
 11 in conjunction with the other defective features described throughout this Complaint.²⁸⁹

12 248. Meta’s Data Policy contains no warnings whatsoever that use of its products at the
 13 intensity and frequency targeted by Meta creates known risks of mental, emotional, and behavioral
 14 problems for children, Instagram’s key audience.

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 16
 17 ²⁸⁷ Nor does it inform users that Meta has allowed third-party apps to harvest from Facebook
 18 “vast quantities of highly sensitive user and friends permissions.” *In re Facebook, Inc.*, No. 18-
 19 md-02843-VC, ECF No. 1104 at 9 (N.D. Cal. Feb. 9, 2023). This has included an app called
 20 Sync.Me, which—according to Meta’s internal investigative documents—“had access to many
 21 ‘heavyweight’ permissions,” “including the user’s entire newsfeed, friends’ likes, friends’
 22 statuses, and friends’ hometowns.” *In re Facebook, Inc.*, No. 18-md-02843-VC, ECF No. 1104 at
 23 9 (N.D. Cal. Feb. 9, 2023). It has included Microstrategy, Inc., which accessed data from “16 to
 24 20 million” Facebook users, despite only being installed by 50,000 people. *In re Facebook, Inc.*,
 25 No. 18-md-02843-VC, ECF No. 1104 at 9 (N.D. Cal. Feb. 9, 2023). And it has included one
 26 Yahoo app that made “billions of requests” for Facebook user information, including “personal
 27 information about those users’ friends, including the friends’ education histories, work histories,
 28 religions, politics, ‘about me’ sections, relationship details, and check-in posts.” *In re Facebook,
 Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9-10 (N.D. Cal. Feb. 9, 2023).

²⁸⁸ Rishi Iyengar, *Here’s How Big Facebook’s Ad Business Really Is*, CNN (July 1, 2020),
<https://www.cnn.com/2020/06/30/tech/facebook-ad-business-boycott>.

²⁸⁹ See Christian Montag, et al., *Addictive Features of Social Media/Messenger Platforms and Freemium Games against the Background of Psychological and Economic Theories*, 16 Int’l J. Env’t Rsch. and Pub. Health 2612, 5 (July 2019),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6679162/> (“One technique used to prolong usage time in this context is the endless scrolling/streaming feature.”); see generally, Ludmila Lupinacci, ‘Absentmindedly scrolling through nothing’: liveness and compulsory continuous connectedness in social media, 43 Media, Culture & Soc’y 273 (2021),
<https://journals.sagepub.com/doi/epdf/10.1177/0163443720939454> (describing the ways that users use and experience social media apps).

1 249. Instagram's collection and utilization of user data begins the instant a user presses
 2 "Sign Up." At that point, Instagram prompts a new user to share a substantial amount of personal
 3 data. First, Instagram asks the user to share their personal contacts, either by syncing contacts from
 4 their phone and/or syncing their "Friends" from Facebook—"We'll use your contacts to help you
 5 find your friends and help them find you." Next, Instagram asks the new user to upload a photo of
 6 themselves. After that, Instagram asks the user to "Choose your interests" in order to "Get started
 7 on Instagram with account recommendations tailored to you." And finally, Instagram invites the
 8 new user to "Follow accounts to see their photos and videos in your feed," offering a variety of
 9 recommendations. After sign-up is completed, Instagram prompts the new user to post either a
 10 photo or a short video.

11 250. Meta's collection and utilization of user data continues unabated as a new user
 12 begins to interact with its products. Meta's tracking of behavioral data—ranging from what the user
 13 looks at, to how long they hover over certain images, to what advertisements they click on or
 14 ignore—helps Meta build out a comprehensive and unique fingerprint of the user's identity. As the
 15 user continues to use the product, Meta's algorithm works silently in the background to refine this
 16 fingerprint, by continuously monitoring and measuring patterns in the user's behavior. Meta's
 17 algorithm is sophisticated enough that it can leverage existing data to draw educated inferences
 18 about even the user behavior it does not track firsthand. Meta's comprehensive data collection
 19 allows it to target and influence its users in order to increase their "engagement" with its apps.

20 251. Meta's collection and analysis of user data allows it to assemble virtual dossiers on
 21 its users, covering hundreds if not thousands of user-specific data segments. This, in turn, allows
 22 advertisers to micro-target marketing and advertising dollars to very specific categories of users,
 23 who can be segregated into pools or lists using Meta's data segments. Only a fraction of these data
 24 segments come from content knowingly designated by users for publication or explicitly provided
 25 by users in their account profiles. Many of these data segments are collected by Meta through covert
 26 surveillance of each user's activity while using the product and when logged off the product,
 27 including behavioral surveillance that users are unaware of, like navigation paths, watch time, and
 28 hover time. Essentially, the larger Meta's user database grows, the more time the users spend on

1 the database, and the more detailed information that Meta can extract from its users, the more
 2 money it makes.

3 252. Currently, advertisers can target Instagram and Facebook ads to young people based
 4 on age, gender, and location.²⁹⁰ According to U.S.-based non-profit Fairplay, Meta did not actually
 5 cease collecting data from teens for advertising in July 2021, as Meta has claimed.²⁹¹

6 253. Meta clearly understands the revenue and growth potential presented by its youngest
 7 users, and it is desperate to retain them. Documents obtained by *The New York Times* indicate, that
 8 since 2018, almost all of Instagram's \$390 million global marketing budget has gone towards
 9 showing ads to teenagers.²⁹²

10 254. Before the rise of Instagram, Facebook was the social media product by which Meta
 11 targeted young users. Until recently, this targeting was devastatingly effective. In January 2014,
 12 90% of U.S. teens used Facebook monthly; as late as January 2016, 68% did.²⁹³

13 255. While the number of teen Facebook users has declined in recent years, Facebook
 14 remains critical to Meta's strategy towards young users. Meta views Facebook as the nexus of teen
 15 users' lives on social media, "where all social circles intersect," and as filling a similar role for such
 16 users as the career-focused social media product LinkedIn fills for adults.²⁹⁴ According to the
 17 summary of a 2018 meeting, Meta's expressed goal was to have users "move through" Meta's
 18 products "as they grow, i.e. Messenger Kids → Instagram → Facebook."²⁹⁵

19 256. To create this cycle, and notwithstanding restrictions under COPPA, Meta embarked
 20 on a "major investment in youth," researching and pursuing products targeted at kids as young as
 21

22 ²⁹⁰ Andrea Vittorio, *Meta's Ad-Targeting to Teens Draws Advocacy Group Opposition*,
 Bloomberg (Nov. 16, 2021), <https://news.bloomberglaw.com/privacy-and-data-security/metas-ad-targeting-to-teens-draws-advocacy-group-opposition>.

23 ²⁹¹ Andrea Vittorio, *Meta's Ad-Targeting to Teens Draws Advocacy Group Opposition*,
 Bloomberg (Nov. 16, 2021), <https://news.bloomberglaw.com/privacy-and-data-security/metas-ad-targeting-to-teens-draws-advocacy-group-opposition>.

24 ²⁹² Sheera Frenkel, et al, *Instagram Struggles With Fears of Losing Its 'Pipeline': Young Users*
 N.Y. Times (Oct. 16, 2021), <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

25 ²⁹³ META3047MDL-003-00171899 at META3047MDL-003-00171904.

26 ²⁹⁴ META3047MDL-003-00171899 at META3047MDL-003-00171909.

27 ²⁹⁵ META3047MDL-003-00003731 at META3047MDL-003-00003732.

1 six.²⁹⁶ The centerpiece of these efforts is Messenger Kids (“MK”).²⁹⁷ In 2019, Meta conducted at
 2 least two research projects on growing MK. One study explored how to use “Playdates as a Growth
 3 Lever for Messenger Kids.”²⁹⁸ During this study, Meta sought to understand better how playdates
 4 might be an area to increase usage among kids by interviewing parents of active users and the young
 5 users themselves.²⁹⁹ Investigators suggested there was an opportunity to “brainstorm features
 6 and/or prompts encouraging use of the app prior and after playdates to improve retention and active
 7 threads.”³⁰⁰ Later that year, they released a finding from a second investigation of parents and
 8 children who used MK and those who did not.³⁰¹ To drive MK growth, the study recommended
 9 “encourag[ing] more K2K [kid-to-kid] connections in MK” by “surfac[ing] and develop[ing]
 10 additional in-app activities that involve others,” while emphasizing to parents the “play-based
 11 messaging” and the “play aspect of MK—camera filters, games, filters via notifs and QPs.”³⁰²
 12 These are many of the same defective features found in Instagram.

13 257. Meta was also eager to market its products to tweens—users aged 10-12. Although
 14 Meta employees publicly denied using children as “guinea pigs” to develop product features,
 15 internally Meta was intensely interested in children’s use of their apps.³⁰³ It conducted research
 16 projects with titles such as “Tweens JTBD Survey”³⁰⁴ and “Exploring Tweens Social Media
 17 Habits.”³⁰⁵ In the latter study, Meta compared tween perceptions of their competitors’ products to
 18

19 296 Haugen_00017238 at Haugen_00017238.

20 297 Nick Stat, *Facebook launches a version of Messenger for young children*, The Verge
 21 (December 4, 2022) <https://www.theverge.com/2017/12/4/16725494/facebook-messenger-kids-app-launch-ios-iphone-preview>.

22 298 Haugen_00023087 at Haugen_00023087.

23 299 Haugen_00023087 at Haugen_00023088, Haugen_00023097.

300 Haugen_00023087 at Haugen_00023090.

301 Haugen_00023066 at Haugen_00023066.

302 Haugen_00023066 at Haugen_00023085.

303 John Twomey, *Molly Russell Inquest Latest: Teenager Viewed Suicide Videos of ‘Most Distressing Nature’*, Express (Sept. 23, 2022), <https://www.express.co.uk/news/uk/1673461/Molly-Russell-inquest-latest-Teenager-suicide-videos-instagram>.

304 “JTBD” appears to stand for “Jobs to Be Done.” Haugen_00024450 at Haugen_00024454.

305 Haugen_00023849 at Haugen_00023850.

1 understand “tween product needs,”³⁰⁶ noting that tweens can “connect and have fun using existing
 2 apps, even though they’re not made with a 10-to-12-year-old in mind.”³⁰⁷ Meta’s takeaway was to
 3 “use entertainment/interest as a starting point for engagement” and to “highlight fitting in.”³⁰⁸

4 258. In 2019, Meta conducted a series of interviews in Los Angeles and Denver with
 5 tween friend groups, friend pairs, and individuals.³⁰⁹ Meta used this research to craft “product
 6 recommendations” to appeal to tweens, suggesting features to help “decrease friction in the digital
 7 interaction funnel.”³¹⁰ The recommendations included developing ways to “provide automatic
 8 signals that indicate whether friends are available to interact,” “[e]nable tweens to instrumentally
 9 signal their availability,” “[p]rovide light conversations starters that tweens can use to test the
 10 reciprocity of an interaction (e.g., poking, waves),” and “build in a way that enables quick
 11 communication across all messaging modalities.”³¹¹

12 259. Meta’s interest, efforts, and success in expanding the presence of its products in
 13 children’s lives is clear. Given the delicate, developing nature of the young brain and Meta’s
 14 creation of social media products designed to promote repetitive, compulsive use, it is not surprising
 15 that American society is now grappling with the ramifications of Meta’s growth-at-any-cost
 16 approach. In a candid moment, ~~REDACTED~~—a Software Engineer at Meta,³¹² admitted, “It’s not a
 17 secret that we’ve often resorted to aggressive tactics in the name of growth, and we’ve been pretty
 18 unapologetic about it.”³¹²

19 260. Meta has studied features and designs from its other products to make Instagram as
 20 attractive and addictive as possible to young users. Meta’s flagship product Facebook was the
 21 original testing ground for many of Instagram’s addicting and otherwise defective features, which
 22 the two products share to this day. This feature overlap is no accident: it represents a conscious

24
 25 ³⁰⁶ Haugen_00023849 at Haugen_00023888.
 26 ³⁰⁷ Haugen_00023849 at Haugen_00023886.

³⁰⁸ Haugen_00023849 at Haugen_00023888.

³⁰⁹ Haugen_00024450 at Haugen_00024450.

³¹⁰ Haugen_00024450 at Haugen_00024466.

³¹¹ Haugen_00024450 at Haugen_00024466.

³¹² Haugen_00000934 at Haugen_00000934.

1 strategy adopted by Meta to keep social media users hooked on its “family” of products for their
 2 entire lives.

3 261. From the beginning, both the Facebook and Instagram products have exploited
 4 vulnerabilities in human psychology to addict users and maximize user time and engagement.
 5 Facebook’s first President, Sean Parker, summed up the devastating impact of this product design
 6 in a 2017 interview:

7 God only knows what it's doing to our children's brains. . . . The
 8 thought process that went into building these applications, Facebook
 9 being the first of them, . . . was all about: ‘How do we consume as
 10 much of your time and conscious attention as possible?’ . . . And that
 11 means that we need to sort of give you a little dopamine hit every
 12 once in a while, because someone liked or commented on a photo or
 13 a post . . . And that’s going to get you to contribute more content,
 14 and that’s going to get you . . . more likes and comments. . . . It’s a
 15 social-validation feedback loop . . . exactly the kind of thing that a
 16 hacker like myself would come up with, because you’re exploiting a
 17 vulnerability in human psychology. . . . The inventors, creators —
 18 it’s me, it’s Mark [Zuckerberg], it’s Kevin Systrom on Instagram, it’s
 19 all of these people — understood this consciously. And we did it
 20 anyway.³¹³

21 Tellingly, many tech leaders, including individuals with inside knowledge of the defects of
 22 Meta’s social media products, either ban or severely limit their own children’s access to screen
 23 time and social media.³¹⁴ Such leaders in the field include Tim Cook and former Facebook
 24 executives Tim Kendall and Chamath Palihapitiya.³¹⁵

25 ³¹³ Mike Allen, *Sean Parker unloads on Facebook: “God only knows what it’s doing to our*
 26 *children’s brains,”* Axios (Nov. 9, 2017), <https://wwwaxios.com/2017/12/15/sean-parker-unloads-on-facebook-god-only-knows-what-its-doing-to-our-childrens-brains-1513306792>.

27 ³¹⁴ Samuel Gibbs, *Apple’s Tim Cook: “I Don’t Want My Nephew on a Social Network”*, The
 28 Guardian (Jan. 19. 2018), <https://www.theguardian.com/technology/2018/jan/19/tim-cook-i-dont-want-my-nephew-on-a-social-network#:~:text=The%20head%20of%20Apple%2C%20Tim,it%20was%20announced%20on%20Friday>; James Vincent, *Former Facebook Exec Says Social Media is Ripping Apart Society*, The Verge (Dec. 11, 2017), <https://www.theverge.com/2017/12/11/16761016/former-facebook-exec-ripping-apart-society>.

29 ³¹⁵ Samuel Gibbs, *Apple’s Tim Cook: “I Don’t Want My Nephew on a Social Network”*, The
 30 Guardian (Jan. 19. 2018), <https://www.theguardian.com/technology/2018/jan/19/tim-cook-i-dont-want-my-nephew-on-a-social-network#:~:text=The%20head%20of%20Apple%2C%20Tim,it%20was%20announced%20on%20Friday>; James Vincent, *Former Facebook Exec Says Social Media is Ripping Apart Society*, The Verge (Dec. 11, 2017), <https://www.theverge.com/2017/12/11/16761016/former-facebook-exec-ripping-apart-society>.

1 **3. Meta intentionally designed product features to addict children and**
 2 **adolescents.**

3 262. Meta designed Facebook and Instagram with harmful defects that users encounter
 4 at every stage of interaction with the product. These defects, which have harmed Plaintiffs and
 5 other adolescents that use the products, include but are not limited to: (a) recommendation
 6 algorithms, fueled by extensive data collection, which are designed to promote use in quantities
 7 and frequency harmful to adolescents; (b) product features that prey upon children's desire for
 8 validation and need for social comparison; (c) product features that are designed to create harmful
 9 loops of repetitive and excessive product usage; (d) lack of effective mechanisms, despite having
 10 the ability to implement them, to restrict children's usage of the products; (d) inadequate parental
 11 controls, and facilitation of unsupervised use of the products; and (e) intentionally placed obstacles
 12 to discourage cessation of use of the products.

13 263. Facebook and Instagram have been designed, maintained, and constantly updated
 14 by one of the world's most wealthy, powerful, and sophisticated corporations. Large teams of
 15 expert data scientists, user experience ("UX") researchers, and similar professionals have spent
 16 years fine-tuning these products to addict users. Every aspect of the products' interfaces, each layer
 17 of their subsurface algorithms and systems, and each line of underlying code has been crafted by
 18 brilliant minds. Every detail—the color of product icons, the placement of buttons within the
 19 interface, the timing of notifications, etc.—is designed to increase the frequency and length of use
 20 sessions. Therefore, it is impractical to create a comprehensive list of addictive, harm-causing
 21 defects in the product until in-depth discovery occurs. Many product features, such as the inner
 22 workings of Meta's algorithms, are secret and unobservable to users. Discovery during this
 23 litigation will reveal additional detail about the defective, addictive, and harmful design of Meta's
 24 products.

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a. **Facebook's and Instagram's algorithms maximize engagement, promoting use at levels and frequency that is harmful to kids.**

264. Meta has invested its vast resources to intentionally design Facebook and Instagram to be addictive to adolescents, all the while concealing these facts from its users, including Plaintiffs, Consortium Plaintiffs, and the public.

265. In its original form, Meta’s Facebook and Instagram algorithms ranked chronologically, meaning that a particular user’s feed was organized according to when content was posted or sent by the people the user followed. In 2009, Meta did away with Facebook’s chronological feed in favor of engagement-based ranking; in 2016, it did the same on Instagram. This “engagement-based” system meant that posts that received the most likes and comments were highlighted first for users. But facing declining engagement, Meta redesigned its algorithms once again in or around early 2018. This change prioritized “meaningful social interaction” (“MSI”), with the goal of showing users content with which they were more likely to engage. The MSI-oriented algorithms purportedly emphasize the interactions of users’ connections; e.g., likes and comments, and give greater significance to the interactions of connections that appear to be closest to users. Meta’s current algorithms consider a post’s likes, shares, and comments, as well as a respective user’s past interactions with posts with similar characteristics, and displays the post in the user’s feed if it meets these and certain other benchmarks.

266. While Meta has publicly attempted to cast MSI as making time spent on its platforms more “meaningful,” MSI was actually just another way for Meta to increase user engagement on Instagram and Facebook. While the feature increases the likelihood that an interaction will be “meaningful” by Meta’s definition—more likes, comments, and interactions—it does not consider whether recommended content is “meaningful” to the user. This sets up users who may have reacted negatively to upsetting or dangerous posts to see more of the same. That, in turn, can lead to what Meta itself calls a “horrible feedback loop / downward spiral”³¹⁶—with negative reactions leading the algorithm to present more posts that generate more negative reactions.

³¹⁶ META3047MDL-003-00068860 at META3047MDL-003-00068861.

1 267. In algorithmically generating users' feeds, Meta draws upon the vast amount of data
 2 it collects about and from its users. Meta's algorithms combine the user's profile (e.g., the
 3 information posted by the user on the product) and the user's dossier (the data collected and
 4 synthesized by Meta, to which it assigns categorical designations) along with a dossier of similar
 5 users.³¹⁷ Meta's algorithms identify and rank recommended posts to optimize for various outcomes,
 6 such as for time-spent by a user or for user engagement. More often than not, this has the effect that
 7 Meta's algorithms direct users to alarming and aversive material.³¹⁸

8 268. Much of what Meta shows users is content that they did not sign up for. In a 2019
 9 internal document, [a Meta](#) data scientist **REDACTED** explained: "users have told us the pages they
 10 would like to see content from, but we often override those explicit preferences because our
 11 predictions of what will get shared and engaged with disagree."³¹⁹ **REDACTED**[This same](#)
 12 [employee](#) pointed to additional data demonstrating that users get relatively little connected content
 13 (content from pages they chose to like) as opposed to unconnected content that is reshared by others,
 14 even as Meta knows that such content is less valued by users.³²⁰

15 269. Meta also optimizes the design of its products for overall "network value"—that is,
 16 what will get the most downstream engagement by other users—rather than what that specific user
 17 would like.³²¹ As **REDACTED**[Done Meta employee](#) put it, "we show things to users that we think

19 ³¹⁷ **REDACTED**[Instagram's](#) former Head of Product Analytics [at Instagram](#), defined "ranking"
 20 as "an ordering of content by importance or relevance" in a 2018 post titled "Is Ranking Good?".
 Haugen_00002372 at Haugen_00002374.

21 ³¹⁸ Haugen_00006798 at Haugen_00006799 (observing that Meta's recommendation algorithms
 22 "are prone to recommending harmful content."); Haugen_00024997 at Haugen_00024997
 23 (conducting experiment showing that, in 3 weeks, "by following just ... *recommended* content,
 the test user's News Feed has become a near constant barrage of polarizing nationalist content,
 misinformation, and gore." (emphasis in original)); Haugen_00024997 at Haugen_00024998
 24 ("when Watch isn't sure what you want, it seems to recommend a lot of softcore porn.");
 Haugen_00003739 at Haugen_00003740 ("[Instagram] is more 'successful' ranking harmful
 25 content than benign content, and is more likely to mistakenly rank higher a harmful content than
 to mistakenly rank higher benign content.").

26 ³¹⁹ Haugen_00021247 at Haugen_000212448; *see also* Haugen_00006798 at Haugen_00006799
 (Meta Research Scientist **REDACTED** in 2019: "it's at best unclear whether users 'want' us to
 put unconnected stories in their feed, even if they like some of them.").

27 ³²⁰ Haugen_00021247 at Haugen_000212448.

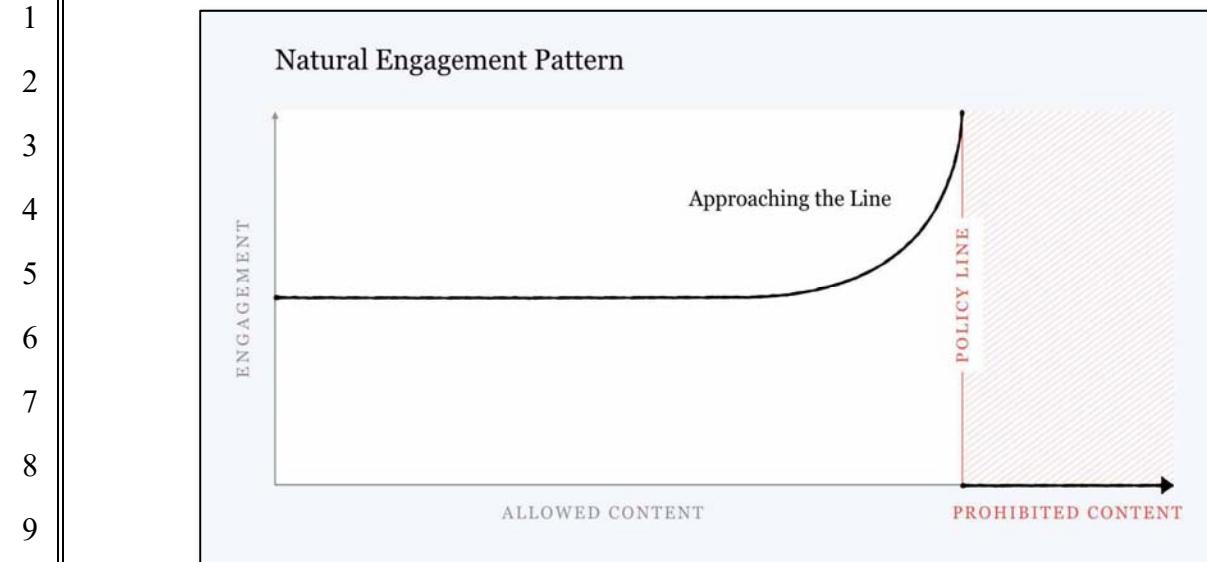
28 ³²¹ Haugen_00021247 at Haugen_00021251.

1 they have a small chance of sharing, leading to comments between people who see it downstream
 2 over things that have a greater chance of being explicitly liked by that user.”³²²

3 270. Through these algorithms, Meta intentionally supplants the content that users have
 4 elected to see with content that it believes will drive more use and engagement. Thus, the products
 5 that Meta touts as “[g]iv[ing] people the power to build community and bring[ing] the world closer
 6 together,” are actually designed in a way that prioritizes not social connection but product use at
 7 all costs, even to the detriment of the health and safety of young people.³²³ The result, for Meta, is
 8 an increase in its bottom line. The result for young users is products that are so addictive that they
 9 return again and again, even when the products push posts they’re not interested in.

10 271. Meta knew that its engagement-based ranking algorithm (and its subsequent,
 11 iterative MSI ranking algorithm) was structured in a way that mean that content which produces
 12 intense reactions (i.e., strong engagement) triggers amplification by the apps. This propels users
 13 into the most reactive experiences, favoring posts that generate engagement because they are
 14 extreme in nature. Zuckerberg publicly recognized this in a 2018 post, in which he demonstrated
 15 the correlation between engagement and sensational content that is so extreme that it impinges upon
 16 Meta’s own ethical limits, with the following chart:³²⁴ While Zuckerberg went on to claim that
 17 Meta had designed its algorithms to avoid this natural propensity of engagement-based algorithms,
 18 his claim to the public is belied by the extensive internal and external research indicating Meta’s
 19 products did amplify extreme material.

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 27 ³²² Haugen_00021247 at Haugen_00021251.
 28 ³²³ Meta, *Mission Statement*, Meta, <https://about.meta.com/company-info/>.
 ³²⁴ Mark Zuckerberg, *A Blueprint for Content Governance and Enforcement*, Facebook,
<https://www.facebook.com/notes/751449002072082/>.



272. Other documents show that Meta's employees also discussed their motive for changing the design of the algorithm—namely, that users began to interact less with the product, which became a worrisome trend for Meta's bottom-line. Meta's engagement-based algorithm (including its MSI variant) exploited extreme content to drive more engagement, which, in turn, helped Meta sell more of the digital ads that generated most of their revenue. In 2016, one Facebook Tech Lead wrote: “[W]e only cared about things like time spent, open links, etc. That's what we optimized for. That's what we used to define success and failure. And that's the problem.”³²⁵

273. Meta intentionally designed its MSI-focused algorithms to collect and analyze several kinds of Plaintiffs' data: a user's profile, content the user reports, content the user posts, content viewed, content engaged with, navigation paths, watch time, hover time (the amount of time a user viewed a piece of content), whether a user mutes or unmutes a video, and whether a user makes a full video screen, among other data.³²⁶ Meta uses this data from adolescents to predict what posts will capture the user's attention. Meta also tracks and utilizes data from various other

³²⁵ Haugen_00001033 at Haugen_00001033.

³²⁶ Haugen_00017177 at Haugen_00017177.

1 sources, such as a user’s off-product activities and the activities on websites that contain Facebook
 2 or Instagram like or share buttons.³²⁷

3 274. Meta’s algorithmic ranking is utilized in a variety of product features that are
 4 designed by Meta to maximize user engagement.

5 275. For example, the Instagram product consists primarily of a never-ending and user-
 6 specific Feed, which Instagram’s data-driven algorithms generate for each user. In the app’s
 7 “Home” pane, this feed includes (but is not limited to) photos and videos posted by Instagram users
 8 that the user has elected to “follow,” as well as recommended photos and videos. In the app’s
 9 “Explore” pane, the feed consists almost exclusively of photos and videos from users the user has
 10 *not* elected to “follow.” In both cases, Instagram’s algorithms evaluate each user’s data to predict
 11 what material will maximize their attention and time spent using the product, irrespective of what
 12 the user wants to see.

13 276. Other “recommendation” features that are similarly algorithmically powered
 14 include Facebook’s Newsfeed, Instagram’s Feed, Instagram Reels, Facebook Reels, Facebook
 15 Watch (and its “For You” page), Accounts to Follow, People You May Know (introductions to
 16 persons with common connections or backgrounds), Groups You Should Join, and Discover
 17 (recommendations for Meta groups to join).

18 277. These product features work in combination to create and maintain a user’s “flow-
 19 state”: a hyper-focused, hypnotic state, where bodily movements are reflexive and the user is totally
 20 immersed in smoothly rotating through aspects of the social media product.³²⁸

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 25 ³²⁷ Allen St. John, *How Facebook Tracks You, Even When You’re Not on Facebook*, Consumer Reports (April 11, 2018), <https://www.consumerreports.org/privacy/how-facebook-tracks-you-even-when-youre-not-on-facebook-a7977954071/>.

26 ³²⁸ See e.g., *What Makes TikTok so Addictive?: An Analysis of the Mechanisms Underlying the*
 27 *World’s Latest Social Media Craze*, Brown Undergraduate J. of Pub. Health (2021).
<https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/> (describing how IVR and infinite
 28 scrolling may induce a flow state in users).

1 278. They also create a phenomenon that Meta employees refer to as “fee[d]ing the
 2 spiral.”³²⁹ Because of the structure of the defective algorithm powering features like Explore,
 3 “someone feeling bad sees content that makes them feel bad, they engage with it, and then their IG
 4 is flooded w[ith] it.”³³⁰ Meta recognizes that Instagram users at risk of suicide or self-injury are
 5 more likely to “encounter more harmful suicide and self-injury content (through explore, related,
 6 follower suggestions, etc).”³³¹ Because Meta’s algorithm prioritizes engagement above all else, any
 7 harmful feeling or impulse that users have are amplified by Instagram—which becomes an echo
 8 chamber screaming their most upsetting thoughts back at them.

9 279. This phenomenon was cast into vivid relief when 14 year-old Molly Russell took
 10 her own life after viewing reams of content related to suicide, self-injury, and depression on
 11 Instagram and several other products.³³² During an official inquest investigating the role that social
 12 media products played in her death, a Meta executive said that such content was “safe” for children
 13 to see.³³³ The coroner rejected this claim, finding instead that Molly “died from an act of self-harm
 14 whilst suffering from depression and the negative effects of on-line content” that she had not sought
 15 out, but that the products’ algorithms had pushed on her.³³⁴ “The platform operated in such a way
 16 using algorithms as to result, in some circumstances, of binge periods of images, video clips and
 17 text some of which were selected and provided without Molly requesting them. These binge

18 ³²⁹ META3047MDL-003-00121808 at META3047MDL-003-00121808. Meta employees
 19 sometimes refer to this “spiral” as a “rabbit hole.” *See also* META3047MDL-003-00077939 at
 20 META3047MDL-003-00077939.

21 ³³⁰ META3047MDL-003-00121808 at META3047MDL-003-00121808.

22 ³³¹ META3047MDL-003-00068863 at META3047MDL-003-00068905, META3047MDL-003-
 23 00068878; *see also* META3047MDL-003-00042548 (“[P]eople who are suffering from
 24 depression and self-harm go down IG rabbit holes, and explore functionality compounds this
 25 issue.”).

26 ³³² Dan Milmo, *Social Media Firms ‘Monetising Misery’, Says Molly Russell’s Father After*
Inquest, The Guardian (Sept. 20, 2022), <https://www.theguardian.com/uk-news/2022/sep/30/molly-russell-died-while-suffering-negative-effects-of-online-content-rules-coroner>.

27 ³³³ Ryan Merrifeld, *Molly Russell Inquest: Instagram Boss Says Suicidal Posts Shouldn’t Be*
Banned From App, The Mirror (Sept. 26, 2022), <https://www.mirror.co.uk/news/uk-news/molly-russell-inquest-instagram-boss-28085269>.

28 ³³⁴ Ryan Merrifeld, *Molly Russell Inquest: Instagram Boss Says Suicidal Posts Shouldn’t Be*
Banned From App, The Mirror (Sept. 26, 2022), <https://www.mirror.co.uk/news/uk-news/molly-russell-inquest-instagram-boss-28085269>.

1 periods ... are likely to have had a negative effect on Molly.... In some cases, the content was
 2 particularly graphic, tending to portray self-harm and suicide as an inevitable consequence of a
 3 condition that could not be recovered from. The sites normalised her condition focusing on a limited
 4 and irrational view without any counterbalance of normality.”³³⁵ The coroner further observed that
 5 “[t]here was no age verification when signing up to the on-line platform” and that Molly’s parents
 6 “did not have access, to the material being viewed or any control over that material.”³³⁶

7 280. Disturbingly, years before Meta sent an executive to the inquest to tout its products
 8 as “safe,” Meta had conducted internal research which warned that there was a risk of “similar
 9 incidents like Molly Russell” because algorithmic product features were “[l]eading users to
 10 distressing content.”³³⁷

11 281. Despite Molly’s death, and notwithstanding Meta’s research into dangerous
 12 spirals—at one point dubbed the “Rabbit hole project”—the company did nothing to stop harm to
 13 its young users. Meta has been clear about the problem: for young users, “our recommendations
 14 algorithms will start pushing you down a rabbit hole of more egregious content.”³³⁸ They have been
 15 clear about potential solutions: targeted changes to the algorithm do lead to a “meaningful drop in
 16 exposure” to problematic content.³³⁹ But they have been resistant to making changes, for the
 17 explicit, profit-minded reason that such tweaks “came with a clear engagement cost.”³⁴⁰

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21 ³³⁵ Andrew Walker, H.M. Coroner, *Regulation 28 Report to Prevent Future Deaths* 2 (Oct. 13,
 22 2022), https://www.judiciary.uk/wp-content/uploads/2022/10/Molly-Russell-Prevention-of-future-deaths-report-2022-0315_Published.pdf.

23 ³³⁶ Andrew Walker, H.M. Coroner, *Regulation 28 Report to Prevent Future Deaths* 2 (Oct. 13,
 24 2022), https://www.judiciary.uk/wp-content/uploads/2022/10/Molly-Russell-Prevention-of-future-deaths-report-2022-0315_Published.pdf.

25 ³³⁷ META3047MDL-003-00043617 at META3047MDL-003-00043644.

26 ³³⁸ META3047MDL-003-00077939; *see also* META3047MDL-003-00068860 at *60 (users
 27 “seeking” bad experiences can “get into a rabbit hole of getting more and more bad content on our
 28 surfaces.”); META3047MDL-003-00087111 at 7112 (acknowledging that a majority of “negative
 experiences” come from algorithmically-powered features like explore and hashtags).

³³⁹ META3047MDL-003-00077939.

³⁴⁰ META3047MDL-003-00077939.

b. **Facebook's and Instagram's user interfaces are designed to create addictive engagement.**

282. To further drive user engagement (and thereby drive data collection and advertising revenue), Facebook and Instagram also utilize a series of design features that are carefully calibrated to exploit users' neurobiology. These features work in tandem with algorithmic ranking to promote addictive engagement. Meta understands this: "teens tell us that they try to take a break but feel compelled back onto the app."³⁴¹ But it does not warn prospective or current users about the following features or their safety risks, which are particularly harmful to Plaintiffs and other adolescents.

283. *First*, Meta programs IVR into its products. Behavioral training via intermittent rewards keeps users endlessly scrolling in search of a dopamine release, oftentimes despite their desire to put their phone down and move onto other activities. Children, who are less likely to have adequate impulse control than adults, are more susceptible to being drawn into this engineered “flow state” and more likely to grow dependent on Facebook or Instagram.

284. *Second*, Facebook and Instagram utilize “Likes” to control the release of dopamine in children. This feature, which Meta created for Facebook and “introduced … to the world” in 2010, allows users to indicate that they “Like” a post and visibly tallies the number of “Likes” any given post has earned.³⁴² Instagram launched in 2010 with the like feature built-in—a user can “Like” a post simply by tapping a heart-shaped button.

285. As with a slot machine, users never know when a like will come. This conditions them to stay on the app. But it also exacerbates issues of social comparison and feedback seeking, creating detrimental effects on adolescent physical and mental health. Indeed, Meta knows from its

³⁴¹ META3047MDL-003-00093303.

³⁴² Ray C. He, *Introducing new Like and Share Buttons*, Meta (Nov. 6, 2013), <https://developers.facebook.com/blog/post/2013/11/06/introducing-new-like-and-share-buttons/>.

1 own internal research that the like feature negatively impacts its younger users.³⁴³ In that research,
 2 Meta acknowledged how much users care about the number of likes they received.³⁴⁴

3 286. Despite this knowledge, Meta has expanded the likes feature in both Facebook and
 4 Instagram. In December 2016, Meta began allowing users to like comments, not just posts. In
 5 February 2022, Meta began allowing users to “Like” Instagram Stories.³⁴⁵ Expanding the like
 6 feature has intensified and multiplied the body of feedback that teen users receive (or don’t receive)
 7 on their posts, preying on their desire to seek validation through comparison with others.

8 287. Meta’s research confirms that hiding likes for all of its users would decrease social
 9 comparison associated with like counts.³⁴⁶ Unfortunately, its research also demonstrated that hiding
 10 likes would decrease the rates at which users click on advertisements (and thereby lower Meta’s ad
 11 revenue).³⁴⁷

12 288. For that reason—despite its ability to alleviate the negative impact of likes on
 13 Plaintiffs and younger users—Meta chose only to implement half-measures. Meta created the
 14 option for users to hide like counts in May 2021, but it made this an optional setting left off by
 15 default.³⁴⁸ Moreover, the number of likes remain visible to the poster of the content. These changes
 16 stop short of resolving the issue of negative social comparison that these score-keeping features
 17 inflict.

18 289. *Third*, Meta has designed its video features in several ways geared to maximizing
 19 users’ flow state and keeping them immersed in its products for longer periods of time. Video clips
 20 on Facebook Reels and Instagram Reels automatically play as a user scrolls and automatically
 21 restart once they conclude. Reels cannot be paused and tapping on the video will simply mute its
 22 audio. In addition, Meta imposes limits on the length of video content on Reels (currently 90

23 ³⁴³ See Haugen_00008207 at Haugen_00008210 (explaining the stress and anxiety that likes
 24 cause teens).

25 ³⁴⁴ Haugen_0008207 at Haugen_0008232.

26 ³⁴⁵ Jhinuk Sen, *Instagram is adding Likes to Stories so it doesn’t clog up people’s inboxes*,
 Business Today (Feb. 15, 2022), <https://www.businesstoday.in/technology/news/story/instagram-is-adding-likes-to-stories-so-it-doesnt-clog-up-peoples-inboxes-322661-2022-02-15>.

27 ³⁴⁶ Haugen_0008207 at Haugen_0008232.

28 ³⁴⁷ Haugen_0008207 at Haugen_0008250.

28 ³⁴⁸ Meta, *Giving People More Control on Instagram and Facebook* (May 26, 2021),
<https://about.fb.com/news/2021/05/giving-people-more-control/>.

1 seconds, and at times as short as 15 seconds). These limits ensure that users do not become bored
 2 by long videos and end their sessions.

3 290. Meta designed the comment features of Reels to minimize any disruption to users'
 4 heightened flow state. The interface of Reels displays the "Like," "Comment," "Save," and "Share"
 5 buttons on the bottom right of the screen. This placement avoids the milliseconds of delay or
 6 discomfort that could disrupt the flow state of right-handed users if placed elsewhere on the screen.
 7 Furthermore, these buttons are overlaid on top of the continuously playing clips, to eliminate any
 8 temporal or visual interruption during which a user might evaluate whether to continue using the
 9 product. Likewise, when a user taps to view the comments on a Reel, the video's audio and the top
 10 quarter of the video continue to play behind the comments section. Again, this design feature keeps
 11 the user's attention on the feed.

12 291. In keeping with its study of IVR, Meta knows when to strategically interrupt a user's
 13 flow. Occasionally, while a video is playing, a comment from the video will appear on the bottom
 14 of the screen, even without the user tapping to view the comments section. These comments are
 15 selected, displayed, and timed intentionally, to retain a user's attention by engaging with the
 16 comments section.

17 292. *Fourth*, Meta carefully (and defectively) calibrates the notifications it sends outside
 18 of the Facebook and Instagram apps, to maximize success in drawing back users who are not
 19 presently using the products. By default, Facebook and Instagram notify users through text and
 20 email about activity that might be of interest, which prompts users to open and reengage with the
 21 products. However, Meta intentionally chooses to display only a limited amount of information in
 22 notifications, in order to trigger curiosity and manipulate the user to click or tap through to the
 23 product.³⁴⁹ In December 2020, Meta internally acknowledged that the goal of this feature was to
 24 optimize engagement at the expense of value to users: "A few years ago we stopped sending out
 25 emails telling you what happened - e.g., telling you what your friend did - instead we just say
 26 'someone comment [sic] on your post,' in the hope that you'll click through. This a clear value-

27 294³⁴⁹ *Clickbait*, Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/clickbait>.

1 engagement tradeoff.”³⁵⁰ Similarly, Meta stopped sending push notifications about friend activities,
 2 finding that without notifications, users were forced to go to the product itself to “check what’s
 3 happening,” thereby initiating a new session, increasing engagement, and improving Meta’s bottom
 4 line.³⁵¹ It designed these features despite knowledge that notifications were tied to potentially
 5 addictive behaviors,³⁵² and in disregard of safer alternative designs.³⁵³

6 293. Meta’s studied manipulation of user engagement through notifications is
 7 particularly detrimental to teenagers, who lack impulse control and crave social rewards, and who
 8 are therefore more susceptible to falling into compulsive patterns of product use. Those harms are
 9 compounded by the fact that Meta sends push notifications in the middle of the night, prompting
 10 children to re-engage with Instagram and Facebook the apps when they should be sleeping.
 11 Disturbed and insufficient sleep is associated with poor health outcomes.³⁵⁴

12 294. *Fifth*, the “Stories” feature of both Facebook and Instagram is defectively designed
 13 to create artificial urgency so that users return to the apps. “Stories” was added by Meta in response
 14 to the growing popularity of Snapchat with teenagers in 2016. “Stories” appear at the top of a user’s
 15 home page upon opening the app and are available to view for only 24 hours, after which they
 16 disappear. This creates pressure to use the product daily, or else risk missing out on dopamine-
 17 causing stimuli or social interactions. This feature is particularly addicting to adolescent users like
 18 Plaintiffs, who feel increased social pressure to view all their contact’s stories each day before the
 19 content disappears, thus increasing their compulsive usage and potential addiction to the product.³⁵⁵

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 21
 22³⁵⁰ Haugen_00010114 at Haugen_00010117.

23³⁵¹ Haugen_00010114 at Haugen_00010117.

24³⁵² See Haugen_00016893 at Haugen_00016899-902.

25³⁵³ See Haugen_00016893 at Haugen_00016913 (suggesting changing to a subtler form of
 notifications); Haugen_00016893 at Haugen_00016915- Haugen_00016916 (Meta intern urging
 the company to stop “inundating users with excessive notifications” and instead focus on user
 experience to create meaningful connections for users).

26³⁵⁴ Nat’l Inst. of Mental Health, *The Teen Brain: Still Under Construction* 6 (2011),
http://www.ncdsv.org/images/NIMH_TeenBrainStillUnderConstruction_2011.pdf.

27³⁵⁵ Sarah Lempa, *Why Are Instagram Stories So Addicting?*, Healthline (April 5, 2021),
<https://www.healthline.com/health/why-are-instagram-stories-so-addicting#The-story-behind-the-Stories>.

1 The ephemeral nature of disappearing content is a ploy intended to inspire urgent perusal, and it
 2 works.³⁵⁶

3 295. *Sixth*, Instagram and Facebook have recognized that their algorithms are structured
 4 to recommend “keywords” or “hashtags” to its young users that lead them to navigate to dangerous
 5 content.³⁵⁷ One researcher put the matter directly in April 2021: “A recurring area of concern is that
 6 we are recommending keywords related to significant safety and wellbeing concerns e.g. weight
 7 loss, diet pills, appetite suppressants. We have been flagging these terms as they appear and Product
 8 Policy and Product teams have been sweeping the list of keywords to remove them, but this is not
 9 sustainable and remains a significant safety, policy, and comms risk. Our current approach of
 10 catching all potentially risky terms in a ‘block list’ has not helped us avoid two news cycles, and
 11 the possibility of this happening a third time is a significant comms and policy risk.”³⁵⁸ As another
 12 set of Meta researchers acknowledged, the majority of negative experiences on Instagram come not
 13 from direct interactions with others (i.e., through comments or direct messages) but rather through
 14 algorithmically-generated recommendations, via Explore, Feed, or hashtags.³⁵⁹

15 296. All of the above defects, in addition to the Instagram-specific defects discussed in
 16 the section that follows, interact with and compound one another to make Meta’s products addictive
 17 and harmful for kids, including Plaintiffs.

18 297. Meta has long been aware of this dangerous and toxic brew.

19 298. In 2017, Meta investigated Facebook users who were addicted to the product—that
 20 is, those who “cannot stop using [the] product to the point where it can cause them harm.”³⁶⁰ The
 21 research found that, “[i]n a given week, approximately 5.9 million people leave Facebook” because

22 ³⁵⁶ Madiha Jamal, *Ephemeral Content — The Future of Social Media Marketing*, Better
 23 Marketing (March 2, 2021), <https://bettermarketing.pub/ephemeral-content-the-future-of-social-media-marketing-996d265916c2#:~:text=Ephemeral%20content%20relates%20to%20the,WhatsApp%20Stories%20and%20LinkedIn%20Stories>.

24 ³⁵⁷ See META3047MDL-003-00068863 at META3047MDL-003-00068905 (“We are leading
 25 users to content that can intensify their feelings through suggested/related hashtags”).

26 ³⁵⁸ META3047MDL-003-00184585 at META3047MDL-003-00184587.

27 ³⁵⁹ META3047MDL-003-00087111 at 7112

28 ³⁶⁰ Haugen_00016893 at Haugen_00016895. This group’s investigation also included meeting
 with Nir Eyal, author of the book *Hooked: How to Build Habit-Forming Products*.

1 they “spent too much time” or because they were taking a temporary break and “planned to
 2 return.”³⁶¹ “[T]his subset provided a good signal for people who could be addicted, who ultimately
 3 leave Facebook as a solution.³⁶² The analysis also found that this subset had a higher number of
 4 sessions per day, received more notifications, and responded quicker to notifications compared to
 5 all users.³⁶³ In 2018, Meta examined the issue of what its researchers called “Facebook addiction”
 6 through a study titled “Problematic Facebook Use: When People Feel Like Facebook Negatively
 7 Affects Their Life.”³⁶⁴ The investigators defined “problematic use” as meaning: “Serious problems
 8 with sleep, work or relationship that they attribute to Facebook AND concerns or preoccupations
 9 about how they use Facebook (e.g., a fear of missing out (FOMO) or lack of control).”³⁶⁵ Notably,
 10 the investigators did not target the heaviest Facebook users in their research.³⁶⁶

11 299. The study found that up to 5% of teens aged 13-20 were problematic users.³⁶⁷
 12 “Problematic use is highest among teens and people in their 20s, consistent with previous findings
 13 that younger people generally have more problems with self-regulation.³⁶⁸ Additionally,
 14 “problematic users” evidenced common tendencies, such as (a) accessing and spending more time
 15 on Facebook; (b) using Facebook late at night; (c) receiving more and responding more quickly to
 16 push notifications; (d) temporarily deactivating their account in the past; and (e) sending far more
 17 messages per minute with a higher ratio of messages sent to messages received.³⁶⁹ As noted above,
 18 Meta understands that “teens feel addicted to IG and feel a pressure to be present” but “like addicts,
 19 they feel that they are unable to stop themselves from being on IG.”³⁷⁰

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22 ³⁶¹ Haugen_00016893 at Haugen_00016898.

23 ³⁶² Haugen_00016893 at Haugen_00016898.

24 ³⁶³ Haugen_00016893 at Haugen_00016899-Haugen_00016802.

25 ³⁶⁴ Haugen_00021690 at Haugen_00021690.

26 ³⁶⁵ Haugen_00021690 at Haugen_00021692.

27 ³⁶⁶ Haugen_00021690 at Haugen_00021697.

28 ³⁶⁷ Haugen_00021690 at Haugen_00021699.

29 ³⁶⁸ Haugen_00021690 at Haugen_00021697.

30 ³⁶⁹ Haugen_00021690 at Haugen_00021695-Haugen_00021697.

31 ³⁷⁰ META3047MDL-003-00157036 at META3047MDL-003-00157036.

1 300. A study into Instagram user behaviors from that same year similarly found that “high
 2 time spent users do tend to be disproportionately younger users, and these users may warrant extra
 3 attention.”³⁷¹ The study found that “[a]s time spent increases, we see a larger proportion of users
 4 that are high school, college or early work life-stages, with additional increases in high school when
 5 we zoom in on the top 1% of time spent users.”³⁷²

6 301. Meta knows that “problematic use” of Facebook and Instagram leads to real
 7 problems. In one internal company document, Meta acknowledged that the pressure to be present
 8 and obtain validation on Instagram meant that teens lacked the capacity to “switch off and shut
 9 down,” noting that teens “can get addicted to things that make them feel bad.”³⁷³ One of Meta’s
 10 data scientists did not mince words when describing this phenomenon to their colleagues:

11 I worry that driving sessions incentivize us to make our product
 12 more addictive, without providing much more value. How to keep
 13 someone returning over and over to the same behavior each day?
 14 Intermittent rewards are most effective (think slot machines),
 reinforcing behaviors that become especially hard to distinguish—
 even when they provide little reward, or cease providing reward at
 all.³⁷⁴

15 Another Meta employee was clear-eyed that “little reward” was too charitable—and that
 16 addictive use was actively harming kids’ mental health:

17 In the focus groups teens told us that they don’t like the amount of
 18 time they spend on the app but feel like they have to be present. They
 19 often feel ‘addicted’ and know that what they’re seeing is bad for
 20 their mental health but feel unable to stop themselves. This makes
 21 them not feel like they get a break [sic] or to can’t switch off social
 22 media. . . .

23 [A]bout 30% (and an even larger proportions of those who are
 24 unsatisfied with their lives) said that the amount of time they spend
 25 on social media makes them feel worse. About half of teens in both
 26 markets want Instagram to take a break or to get off the app. . . . [In
 27 another survey], we found that time spent is among one of the most
 28 negative experiences for IG (25%+ say they spend too much time on
 social media and it’s worst on Instagram and Facebook). At the same
 time, they didn’t think there was anything they could do about it and

³⁷¹ Haugen_00017177 at Haugen_00017181.

³⁷² Haugen_00017177 at Haugen_00017187.

³⁷³ Haugen_00017069 at Haugen_00017128, Haugen_00017132.

³⁷⁴ Haugen_00010114 at Haugen_00010127.

1 had fairly negative things to say about the time spent tools we have
 2 (particularly that the tools are easy to ignore).³⁷⁵

3 302. In January 2021, another Meta employee wrote: “No one wakes up thinking they
 4 want to maximize the number of times they open Instagram that day. But that's exactly what our
 5 product teams are trying to do.”³⁷⁶

6 303. Meta failed to invest in adequate tools to limit the harm their products inflicted on
 7 users. As one employee candid put it: “the tools we currently have aren't effective at limiting
 8 [users'] time on the app.”³⁷⁷ Nonetheless, Meta publicly presented certain of these tools as
 9 solutions, despite knowing of their ineffectiveness. For example, Meta offered to its users a feature
 10 that purported to show how much time users had spent on Instagram. And Meta touted this feature
 11 “when speaking to consumers, the press, and stakeholders about our efforts to combat social media
 12 addiction.”³⁷⁸ But internally, Meta acknowledged that the data reported by this tool was
 13 fundamentally “incorrect”: “It's not just that Apple / Google have better data. Ours is wrong. Far
 14 worse. We're sharing bad metrics externally. We've been unable to right it despite several person-
 15 months of efforts. . . . So it's wrong (bad enough in itself), can't be fixed easily (we've tried), has
 16 been half-rolled-out for a while . . . the group that audits metrics we provide to the outside world,
 17 has called us out on it...The reason this is relevant is we vouch for these numbers. Any day they're
 18 out there is a legal liability.”³⁷⁹

19 304. At the end of the day, Meta's failure to prevent compulsive use by children, and the
 20 harms resulting therefrom, are a simple function of its misplaced priorities. One “integrity
 21 researcher” at Facebook wrote an internal article in August 2020 with her parting thoughts as she
 22 left the company. She explained that Meta's leadership consistently ignored concerns about user
 23 safety:

24 Integrity teams are facing increasing barriers to building safeguards.
 25 . . . [T]ime and time again I've seen promising interventions from

26 ³⁷⁵ Haugen_00017069 at Haugen_00017171.

27 ³⁷⁶ META3047MDL-003-00161686 at META3047MDL-003-00161686.

28 ³⁷⁷ META3047MDL-003-00157036 at META3047MDL-003-00157036.

³⁷⁸ META3047MDL-003-00157036 at META3047MDL-003-00157036.

³⁷⁹ META3047MDL-003-00157133 at META3047MDL-003-00157133.

integrity product teams, with strong research and data support be prematurely stifled or severely constrained by key decision makers—often based on fears of public and policy stakeholder responses. Similarly (though even more concerning), I've seen already built & functioning safeguards being rolled back for the same reasons . . . While mountains of evidence is (rightly) required to support a new intervention, none is required to kill (or severely limit) one. . . . [This] is intended as a call to reflection for those decision-makers imposing constraints.³⁸⁰

305. Meta’s decision to hook teenage users by rewiring their brains has not aged well for some of its former employees. Chamath Palihapitiya, the former Vice President of User Growth at Facebook, admitted that he feels “tremendous guilt” about his contributions to social media, saying “[t]he short-term, dopamine-driven feedback loops that we have created are destroying how society works.”³⁸¹

c. **Instagram's defective product features cause negative appearance comparison and social comparison**

306. Meta has known since at least 2018 that Instagram has a corrosive effect on the well-being of pre-teen and teenage users.³⁸²

307. Meta has an internal research team comprised of employees with expertise in, *inter alia*, computer science, psychology, and quantitative and qualitative analysis. From 2019 to 2021, this team conducted a “teen mental health deep dive” which included focus groups, diary studies, and online surveys. One large-scale study paired a survey of tens of thousands of Instagram users with data about the time each respondent spent on Instagram and the type of content they viewed.³⁸³

³⁸⁰ Haugen 00021096 at Haugen 00021097-Haugen 0002110 (emphasis omitted).

³⁸¹ Amy B. Wang, *Former Facebook VP says social media is destroying society with ‘dopamine-driven feedback loops’*, Wash. Post (Dec. 12, 2017), <https://www.washingtonpost.com/news/the-switch/wp/2017/12/12/former-facebook-vp-says-social-media-is-destroying-society-with-dopamine-driven-feedback-loops/>.

³⁸² See, e.g., Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; META3047MDL-003-00146240 at META3047MDL-003-00146256.

³⁸³ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; Haugen_00017069; META3047MDL-003-00000029.

1 308. The evidence collected by Meta's research team is damning. Among other findings,
 2 Defendants' researchers learned that:

- 3 • 41% of teen users of Instagram in the U.S. and U.K. who reported feeling
 4 "unattractive" said the feeling began while using the product;³⁸⁴
- 5 • 32% of teenage girls said that when they felt bad about their bodies,
 6 Instagram made them feel worse;³⁸⁵
- 7 • "We make body issues worse for 1 in 3 teen girls,"³⁸⁶
- 8 • "Frequent social comparison is a key driver of subjective well-being and
 9 teens say IG makes this problem worse;"³⁸⁷
- 10 • One in five teens say that Instagram makes them feel worse about
 11 themselves;³⁸⁸
- 12 • Two-thirds of teen girls on Instagram experience negative social
 13 comparison;³⁸⁹
- 14 • 17% of teen girl Instagram users say the product makes "[e]ating [i]ssues"
 15 worse;³⁹⁰

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18 ³⁸⁴ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for*
 19 *Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021),
<https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; META3047MDL-003-00000029 at META3047MDL-003-00000043.

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21 ³⁸⁵ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for*
 22 *Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021),
<https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; Haugen_00019219 at Haugen_00019226; META3047MDL-003-00001846 at META3047MDL-003-00001852.

23 ³⁸⁶ Haugen_00016699 at Haugen_00016707.

24 ³⁸⁷ Haugen_00019219 at Haugen_00019226.

25 ³⁸⁸ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for*
 26 *Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021),
<https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; Haugen_00017069 at Haugen_00017091; META3047MDL-003-00000029 at META3047MDL-003-00000049.

27 ³⁸⁹ Haugen_00019219 at Haugen_00019226.

28 ³⁹⁰ Haugen_00020135 at Haugen_00020162.

- 1 • About a quarter of teens who reported feeling “not good enough” said the
- 2 feeling started on Instagram;³⁹¹
- 3 • Many teens said Instagram undermined their confidence in the strength of
- 4 their friendships;³⁹²
- 5 • Teenagers who struggle with mental health say that Instagram worsens those
- 6 problems;³⁹³
- 7 • “Teens blame Instagram for increases in the rates of anxiety and depression
- 8 among teens” in recent years—a response that was unprompted and
- 9 consistent across all groups;³⁹⁴
- 10 • Among teens who reported suicidal thoughts, 13% of British users and 6%
- 11 of American users traced the desire to kill themselves to Instagram;³⁹⁵ and
- 12 • 13.5% of teen girl Instagram users say the product makes thoughts of
- 13 “suicide and self-injury” worse.³⁹⁶

³⁹¹ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; META3047MDL-003-00000029 at META3047MDL-003-00000043.

³⁹² Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739> META3047MDL-003-00000029 at META3047MDL-003-00000043.

³⁹³ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; META3047MDL-003-00000029 at META3047MDL-003-00000054.

³⁹⁴ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; META3047MDL-003-00000029 at META3047MDL-003-00000052.

³⁹⁵ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; META3047MDL-003-00000029 at META3047MDL-003-00000043.

³⁹⁶ Haugen_00016699 at Haugen_00016707.

1 309. Meta's researchers were clear in explaining that Instagram product features were
 2 responsible for these problems. In one chart illustrating the "High" amount of "Body, Appearance
 3 Comparison" on Instagram, researchers cited as contributing factors "Product mechanics
 4 (addicting)" and "Explore, discover, stalk (down the rabbit hole)."³⁹⁷ In another slide, researchers
 5 noted the particular problems with Instagram's Explore feature, as it contains "[t]ons of body image
 6 triggers" that are "[i]ntimidating" to users.³⁹⁸

7 310. Children are developmentally unprepared for the psychological ramifications of
 8 peer judgment and online comparisons.

9 311. Meta's internal researchers were not only clear about the fact that Instagram causes
 10 a high level of social comparison for teenagers; they were clear-eyed about the dire consequences.
 11 They observed that the addictive nature of the Instagram product, combined with a tendency for
 12 users to share only the best moments and a pressure to match unrealistic beauty ideals can send
 13 teens into a downward spiral that includes anger, withdrawal, insecurity, and body dysmorphia—
 14 "a series of emotions that in many ways mimic stages of grief."³⁹⁹ They further warned that
 15 "[u]sers['] experience of [this] downward spiral is exacerbated by our platform."⁴⁰⁰ "Comparisons
 16 on Instagram can change how young women view and describe themselves," they noted, changing
 17 a girl's self-perception from "multi-dimensional" and "centered" to "not in control," "dark," boxed
 18 in," "low esteem," and "anxious."⁴⁰¹ The researchers' conclusions were stark: "Mental health
 19 outcomes related to this can be severe," and can include "eating disorders," "body dysmorphia,"
 20 "body dissatisfaction," "depression," and "loneliness."⁴⁰²

21 312. Meta's research demonstrates that social comparison is particularly bad on
 22 Instagram because, among other things, celebrity and influencer content is pervasive.⁴⁰³ By
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24 ³⁹⁷ Haugen_00015958 at Haugen_00015987.

25 ³⁹⁸ Haugen_00015958 at Haugen_00015989.

26 ³⁹⁹ Haugen_00015958 at Haugen_00015985.

27 ⁴⁰⁰ Haugen_00015958 at Haugen_00015990.

28 ⁴⁰¹ Haugen_00015958 at Haugen_00015983.

⁴⁰² Haugen_00015958 at Haugen_00015992.

⁴⁰³ Haugen_00015958 at Haugen_00015996.

1 manufacturing and emphasizing influence and celebrity, and purposely inundating tween and teen
 2 users with those accounts, Meta further exploits and monetizes social comparison. That has come
 3 at a direct cost to the mental health of its teens users, who are more susceptible to body
 4 dissatisfaction and negative social comparisons.⁴⁰⁴ Meta knows as much. In 2021, its researchers
 5 found that exposure to content from “Top Accounts” (i.e., those with the top 0.1% of followers)
 6 was most associated with negative comparison and that Instagram’s influence-driven model ensures
 7 Top Accounts flood users’ feeds almost half the time.⁴⁰⁵

8 313. Score-keeping features designed into Instagram amplify these problems. Teenage
 9 girls are particularly impacted when comparing like counts, follower counts, views, and comments
 10 on their posts to those of models, celebrities, and so-called influencers. Meta’s internal research
 11 reveals that teen girls are eight times more likely to engage in negative social comparison than their
 12 male counterparts.⁴⁰⁶

13 314. Instagram compounds the foregoing problems with yet another pernicious feature—
 14 image “filters” that allow users to engage in selective self-presentation by altering their appearance
 15 in photos and videos. These filters allow facial structure alteration, body slimming, skin lightening,
 16 skin tanning, blemish clearing, the artificial overlap and augmentation of makeup, and other
 17 beautification “improvements.”⁴⁰⁷

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⁴⁰⁴ Haugen_00002527 at Haugen_00002555.

⁴⁰⁵ META3047MDL-003-00159559 at META3047MDL-003-00159560.

⁴⁰⁶ Haugen_00017263 at Haugen_00017263.

⁴⁰⁷ T. Mustafa, *An ‘Instagram Vs Reality’ filter is showing how toxic photo editing can be*, Metro (April 2021); <https://metro.co.uk/2021/04/30/an-instagram-vs-reality-tool-is-showing-how-toxic-filters-can-be-14498265/>.

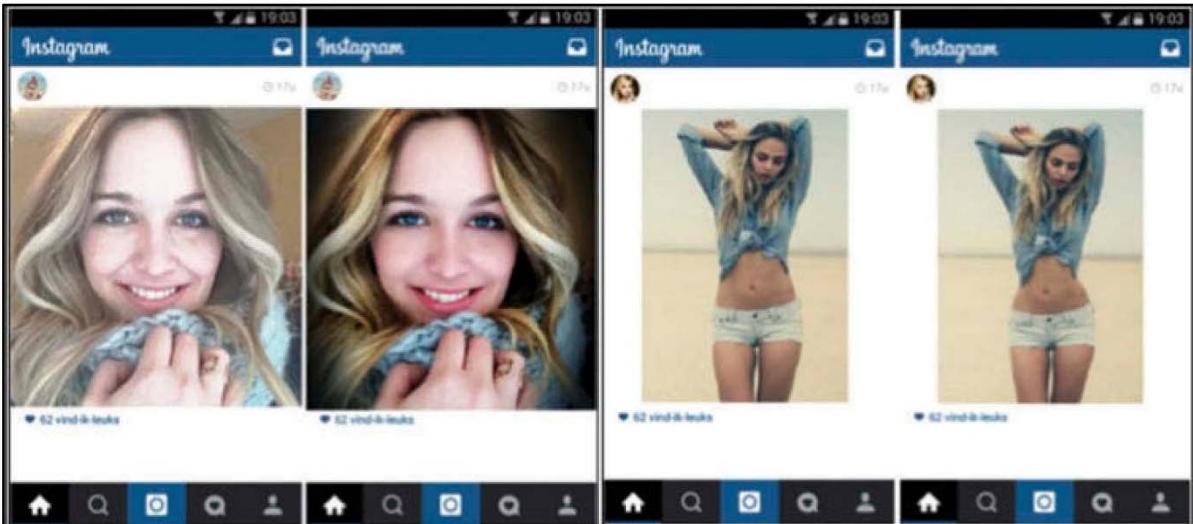


Figure 1. Examples of original versus manipulated Instagram photos emphasizing face, skin, and hair (left), or body (right).

⁴⁰⁸ These filters have harmed Plaintiffs in multiple ways, both independently and in concert with Instagram's other defective features.⁴⁰⁹

^{315.} *First*, the easy accessibility of filters, combined with features such as "Likes," encourage adolescents to artificially change their appearances.⁴¹⁰ As noted, adolescents naturally seek social validation. When they notice increased interaction and favorable responses to their filter-edited photos (more "Likes" and comments"), many are led to believe they are only attractive when their images are edited.⁴¹¹ These young people, including Plaintiffs, begin to prefer how they

⁴⁰⁸ Mariska Kleemans, Serena Daalmans, Ilana Carbaat & Doeschka Anschütz (2018) *Picture Perfect: The Direct Effect of Manipulated Instagram Photos on Body Image in Adolescent Girls*, 21 Media Psychology 93, 93-110 (2018), <https://www.tandfonline.com/doi/pdf/10.1080/15213269.2016.1257392>.

⁴⁰⁹ Anna Haines, *From 'Instagram Face' To 'Snapchat Dysmorphia': How Beauty Filters Are Changing The Way We See Ourselves*, Forbes (Apr. 27, 2021), <https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

⁴¹⁰ Tate Ryan-Mosley, *Beauty Filters Are Changing the Way Young Girls See Themselves*, MIT Tech. Rev. (Apr. 2, 2021), <https://www.technologyreview.com/2021/04/02/1021635/beauty-filters-young-girls-augmented-reality-social-media/amp/>.

⁴¹¹ Tate Ryan-Mosley, *Beauty Filters Are Changing the Way Young Girls See Themselves*, MIT Tech. Rev. (Apr. 2, 2021), <https://www.technologyreview.com/2021/04/02/1021635/beauty-filters-young-girls-augmented-reality-social-media/amp/>.

1 look using filters, not as they appear naturally.⁴¹² In a 2016 study, 52% of girls said they use image
 2 filters every day, and 80% have used an app to change their appearance before age 13.⁴¹³ Meta's
 3 own findings showed teen girls spend hours editing images by altering their appearance before
 4 posting on Instagram,⁴¹⁴ and that "teen girls in particular" are "some of the biggest users of these
 5 filters."⁴¹⁵ Pictures must be "Instagrammable" to be worthy of posting.

6 316. *Second*, because Instagram already promotes a high degree of social comparison,
 7 youth including Plaintiffs find themselves comparing their real-life appearances to the edited
 8 appearances not only of themselves but of others online.⁴¹⁶ These false and unrealistic body image
 9 standards further lead teenagers, including Plaintiffs, to develop negative perceptions of their
 10 appearance. 77% of girls reported trying to change or hide at least one part of their body before
 11 posting a photo of themselves, and 50% believe they did not look good without editing.⁴¹⁷

12 317. *Third*, the specific changes filters make to an individual's appearance can cause
 13 negative obsession or self-hatred surrounding aspects of their appearance.⁴¹⁸ The filters alter
 14 specific facial features such as eyes, lips, jaw, face shape, and slimness, which often require medical
 15
 16

17 ⁴¹² Poojah Shah, *How Social Media Filters Are Affecting Youth*, Parents (Apr. 28, 2022),
 18 <https://www.parents.com/kids/health/childrens-mental-health/how-social-media-filters-are-affecting-youth/>.

19 ⁴¹³ Anna Haines, *From 'Instagram Face' to 'Snapchat Dysmorphia'; How Beauty Filters Are*
20 Changing the Way We See Ourselves, Forbes (Apr. 27, 2021),
<https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c2d58704eff>.

21 ⁴¹⁴ Haugen_00019219 at Haugen_00019255.

22 ⁴¹⁵ META3047MDL-003-00157020 at META3047MDL-003-00157020.

23 ⁴¹⁶ See *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf> (explaining that users forget that Instagram only shows the highlights of people's lives and is not depicting reality); Haugen_00019219 at Haugen_00019255.

24 ⁴¹⁷ Anna Haines, *From 'Instagram Face' to 'Snapchat Dysmorphia'; How Beauty Filters Are*
25 Changing the Way We See Ourselves, Forbes (Apr. 27, 2021),
<https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c2d58704eff>.

26 ⁴¹⁸ Tonya Russell, *Social Media Filters Are Changing How Young People See Themselves*, Teen Vogue (Jan. 25, 2022), <https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp>.

1 intervention to alter in real life.⁴¹⁹ The pervasiveness of Meta-designed filters through the algorithm
 2 permeates Instagram and causes adolescent users to negatively compare their real appearances
 3 against a false physical reality.⁴²⁰ In one recent study, even users who reported a higher initial self-
 4 esteem level felt they looked 44% worse before their image was edited using a filter.⁴²¹ “[W]hen
 5 the . . . filter increased the gap between how participants wanted to look and how they felt they
 6 actually looked, it reduced their self-compassion and tolerance for their own physical flaws.”⁴²² As
 7 one psychodermatologist has summed it up, “these apps subconsciously implant the notion of
 8 imperfection and ugliness, generating a loss of confidence.”⁴²³

9 318. *Fourth*, Meta has intentionally designed its product to not alert adolescent users
 10 when images have been altered through filters or edited. Meta has therefore designed its product so
 11 that users, including Plaintiffs, cannot know which images are real and which are fake, deepening
 12 negative appearance comparison.

13 319. The impact of the negative social and appearance comparison caused by Meta’s
 14 defective product features is profound. Instagram-induced social comparison creates a schism
 15 between the ideal self and the real self, leading to distress and depression. Filters, especially in
 16 combination with other product features, cause body image issues, eating disorders, body
 17 dysmorphia, and related harms.⁴²⁴

18 ⁴¹⁹ Tonya Russell, *Social Media Filters Are Changing How Young People See Themselves*, Teen
 19 Vogue (Jan. 25, 2022), <https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp>.

20 ⁴²⁰ Tonya Russell, *Social Media Filters Are Changing How Young People See Themselves*, Teen
 21 Vogue (Jan. 25, 2022), <https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp>.

22 ⁴²¹ Ana Javornik, Ben Marder, Marta Pizzetti, & Luk Warlop, *Research: How AR Filters Impact
 23 People’s Self-Image*, Harvard Business Review (December 22, 2021),
<https://hbr.org/2021/12/research-how-ar-filters-impact-peoples-self-image>.

24 ⁴²² Ana Javornik, Ben Marder, Marta Pizzetti, & Luk Warlop, *Research: How AR Filters Impact
 25 People’s Self-Image*, Harvard Business Review (December 22, 2021),
<https://hbr.org/2021/12/research-how-ar-filters-impact-peoples-self-image>.

26 ⁴²³ Genesis Rivas, *The Mental Health Impacts of Beauty Filters on Social Media Shouldn’t Be
 27 Ignored – Here’s Why*, InStyle (Sept. 14, 2022), <https://www.instyle.com/beauty/social-media-filters-mental-health>.

28 ⁴²⁴ See Sian McLean, Susan Paxton, Eleanor Wertheim, & Jennifer Masters, *Photoshopping the
 29 Selfie: Self Photo Editing and Photo Investment Are Associated with Body Dissatisfaction in
 Adolescent Girls*, 48 Int’l J. of Eating Disorders 1132, 1133 (Aug. 27, 2015),
<https://pubmed.ncbi.nlm.nih.gov/26311205/> (presenting a 2015 study involving 101 adolescent

1 320. Again, none of this has been lost on Meta. To the contrary, Meta has long been
 2 aware of the harms Instagram inflicts on youth by perpetuating social comparison to unrealistic
 3 beauty standards. In one study from 2019, teens age 13-17 explained that Instagram harms their
 4 mental health by creating pressure to conform to social stereotypes and match the body shapes of
 5 influencers, the need for validation through views, likes and followers, and the over-sexualization
 6 of girls.⁴²⁵ Meta’s analysis categorized the documented harms into three categories: impacts from
 7 comparison to others, the pressure of looks/behaviors, and from others’ behaviors. These impacts
 8 were associated with isolation, unhealthy eating habits, depression, anxiety, insecurity, and
 9 loneliness.⁴²⁶

10 321. In its “Social Comparison Exploratory Research” conducted in 2020, Meta
 11 acknowledged that body image comparisons are formed in part by its defective product features—
 12 filters that flood its app with seemingly unattainable looks like flawless skin, made worse by posters
 13 “using hashtags like no-filters but actually using filters.”⁴²⁷ Meta’s researchers found that nearly
 14 half of teen girls on Instagram feel like they often or always compare their appearance to others
 15 using the product, more than one-third feel extreme pressure to look perfect on Instagram.⁴²⁸ In a
 16 related survey, Meta found that around the age of 30, the role of Instagram in social comparison
 17 begins to diminish.⁴²⁹

18 322. According to research conducted by Meta in 2019, over 60% of teens believe
 19 Instagram should help them address the effects of social comparison by recommending positive

20 21 girls, which found that more time spent editing and sharing selfies on social media raised their
 22 risk of experiencing body dissatisfaction and disordered eating habits.); Scott Griffiths, Stuart
 23 Murray, Isabel Krug, & Sian McLean, *The Contribution of Social Media to Body Dissatisfaction,*
Eating Disorder Symptoms, and Anabolic Steroid Use Among Sexual Minority Men, 21
Cyberpsychology Behavior, and Soc. Networking 149, 149 (Mar. 1, 2018),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5865626/>.

24 25 ⁴²⁵ Haugen_00017069 at Haugen_00017122.

26 27 ⁴²⁶ Haugen_00017069 at Haugen_00017126.

28 29 ⁴²⁷ *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>; Haugen_00015958 at Haugen_00015971-Haugen_00015977.

30 31 ⁴²⁸ Haugen_00007080 at Haugen_00007082.

32 33 ⁴²⁹ Haugen_00007080 at Haugen_00007095.

1 accounts, reprioritizing their feeds to promote healthy accounts, and help them follow a balance of
 2 accounts.⁴³⁰ One in three teens wished Instagram gave them better user controls.⁴³¹ Yet a survey
 3 conducted two years later revealed that Meta had done little to address its users' concerns. Topics
 4 that elicited social comparison still encompassed over one-third of teen girls' feeds. And for every
 5 post from a friend that appeared in a teen girl's feed, Instagram's algorithm drove five times as
 6 much content from popular accounts.⁴³²

7 323. One slide from Meta's study of social comparison offers a particularly succinct
 8 summation of how the various product defects built into Instagram "exacerbate each other to create
 9 a perfect storm."⁴³³ "Posting 'For the Gram'" creates a "Pressure to Look Perfect."⁴³⁴ The ability
 10 of influencers to "Monetiz[e] face + body" creates a "Highlight Reel Norm."⁴³⁵ And the "Vortex
 11 of Feed + Profile and Explore" promotes a "Hate to love" dynamic for users, which "Feed[s] the
 12 Spiral" of compulsive use.⁴³⁶ Taken together, these three features—all driven by very specific
 13 design features of Instagram—create a "Social Comparison Sweet Spot."⁴³⁷

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19 ⁴³⁰ Haugen_00017069 at Haugen_00017145.

20 ⁴³¹ Haugen_00020135 at Haugen_00020171.

21 ⁴³² Haugen_00002527 at Haugen_00002527.

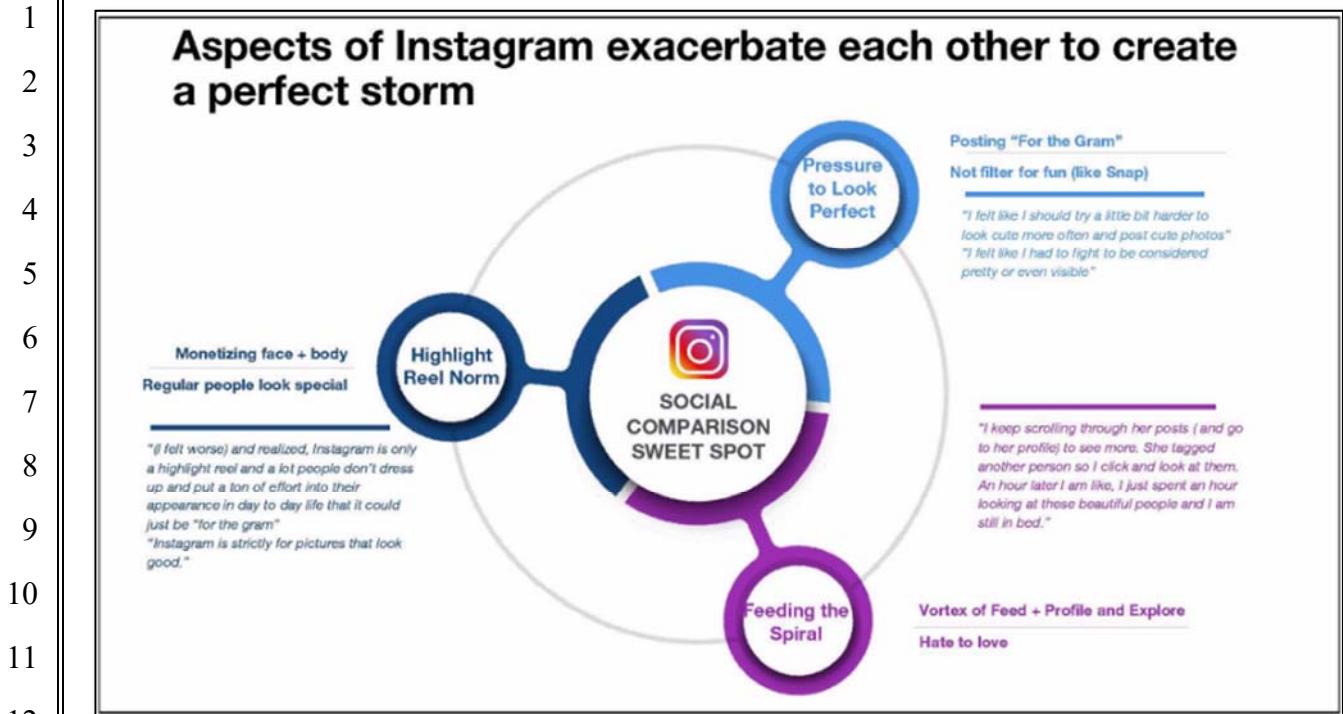
22 ⁴³³ *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>; Haugen_00015958 at Haugen_00015991.

23 ⁴³⁴ *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>; Haugen_00015958 at Haugen_00015991.

24 ⁴³⁵ *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>; Haugen_00015958 at Haugen_00015991.

25 ⁴³⁶ *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>; Haugen_00015958 at Haugen_00015991.

26 ⁴³⁷ *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>; Haugen_00015958 at Haugen_00015991.



13 324. Finally, Meta understands that the social comparison it knowingly enables through
 14 appearance filters create compulsive behavior among child users, especially when paired with other
 15 defects such as likes and algorithmic recommendations. Specifically, Meta knows that social
 16 comparison creates a negative feedback loop.⁴³⁸ Its internal research reveals that, as teens compare
 17 themselves to others, their self-doubt grows, which in turn heightens the degree of attention they
 18 give these feelings. As these effects compound, teens experience depression and anxiety, making
 19 them more vulnerable and susceptible to harmful content.⁴³⁹ Meta observed that long-term constant
 20 self-critique and scrutiny permanently shapes how teens view themselves in all relationships on
 21 and offline.⁴⁴⁰ Moreover, they found that the incessant social pressure Instagram inflicted on teens
 22 led to obsessive control and attention-seeking behavior to obtain social validation.⁴⁴¹ In other
 23 words, Instagram's design features resulted in an insidious cycle of harm where teens believed they
 24 could only find reprieve by increased Instagram use.

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⁴³⁸ Haugen_00017069 at Haugen_00017127.

27 ⁴³⁹ Haugen_00017069 at Haugen_00017127.

28 ⁴⁴⁰ Haugen_00017069 at Haugen_00017130.

⁴⁴¹ Haugen_00017069 at Haugen_00017127.

1 325. Meta has the technological capabilities to mitigate social comparison harms
 2 significantly but actively chooses to ignore leading research (including its own) and its product
 3 engineers' recommendations. One internal presentation concluded with several "targeted
 4 interventions" for changes to Instagram that could mitigate these harms, such as a recommendation
 5 that users take a break during a long use session.⁴⁴² In another, computational social researchers
 6 and engineers at Meta proposed numerous feasible product design changes including: demotions
 7 on Explore and Reels using topic and image and video features from an FB Learner model,
 8 separating top-account feed from close-friend feed, and not recommending celebrities to follow
 9 that post primarily fashion/beauty content as users "can find these accounts on their own, but [Meta]
 10 shouldn't amplify their influence through recommendations."⁴⁴³

11 326. Despite its vast knowledge of the harms that Instagram's defective product features
 12 were causing to adolescents, in Meta's 2021 Milestone Tracker, the action item of reducing the
 13 negative effects from social comparison through controls had yet to be started.⁴⁴⁴ In other words,
 14 despite awareness that the deliberate design of Instagram was drastically damaging teen mental and
 15 physical health, including that of Plaintiffs, Meta ignored the problem, failing to implement its own
 16 researchers' recommendations.

17 d. **Meta has failed to implement effective age-verification**
 18 **measures to keep children off of Facebook and Instagram.**

19 327. Meta purports to ban children under the age of 13 from using its products but, at all
 20 relevant times, has lacked any reliable form of age verification to prevent such use.

21 328. Other online products employ substantially more effective and reliable age
 22 verification schemes before granting children access. These include but are not limited to
 23 connecting new users to parents' accounts, credit card verification, verification by presentation of
 24 identification card (or other government-issued document), or linking a verified undergraduate or
 25 professional email, among other methods. Meta chooses not to implement any of these systems,

26
 27 ⁴⁴² Haugen_00019219 at Haugen_00019272.

28 ⁴⁴³ Haugen_0002527 at Haugen_0002565.

29 ⁴⁴⁴ Haugen_00025741 at Haugen_00025763.

1 even though they are technologically feasible, used by many companies across the Internet, and
 2 could be employed at relatively low cost. Indeed, Meta itself uses an age verification technique for
 3 its Facebook Dating product that it claims can verify ages without identifying users—but does not
 4 use the same technology at account startup for Facebook or Instagram.⁴⁴⁵

5 329. For most of its history, Meta knew that children under the age of 13 were using its
 6 apps. And it certainly could have figured this out based on posted photos of elementary school age
 7 users. Yet Meta continued to promote and target Facebook and Instagram to children. As long as a
 8 new user simply clicked a box confirming that they were at least 13 years old, Meta asked no
 9 questions, engaged in zero follow-up, and let the user access the products indefinitely. This did not
 10 go unnoticed by certain of its employees, who criticized the company’s policy: “if we collected age
 11 on IG we could age-gate this content [referring to suicide and self-injury (“SSI”) content] . . . and
 12 if we used age classifiers we could detect under 13s and kick them off the platform so they wouldn’t
 13 have access to content that’s not appropriate for them to find.”⁴⁴⁶

14 330. Indeed, Meta did not ask for the age of new Instagram users until December 2019,
 15 after Instagram had been on the market for more than seven years.⁴⁴⁷ Even then, Meta did not ask
 16 *existing* users to disclose their ages, effectively grandfathering in underage users. Indeed, an
 17 internal document confirms that, in April 2020, Meta only had ages for approximately 55% of its
 18 users.⁴⁴⁸ Meta did not attempt to correct *that* problem until August 30, 2021. And Meta did not
 19 begin requiring age verification for users who attempt to change their age from under to over 18
 20 until 2022.⁴⁴⁹

21 ⁴⁴⁵ Erica Finkle, Meta Director of Data Governance, *Bringing Age Verification to Facebook*
 22 *Dating*, Meta (Dec. 5, 2022), <https://about.fb.com/news/2022/12/facebook-dating-age-verification/>.

23 ⁴⁴⁶ META3047MDL-003-00086015 at META3047MDL-003-00086015.

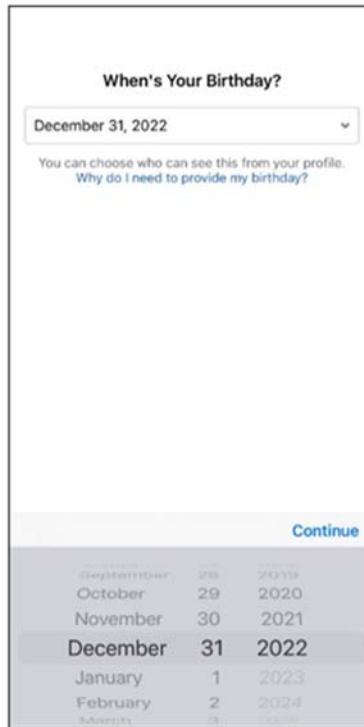
24 ⁴⁴⁷ META3047MDL-003-00157020 at META3047MDL-003-00157020 (“[W]e have very limited
 25 age information on IG (we only started collecting age in December at registration”)).

26 ⁴⁴⁸ META3047MDL-003-00042548 at META3047MDL-003-00042551- META3047MDL-003-
 27 00042552.

28 ⁴⁴⁹ Instagram, *Introducing New Ways to Verify Age on Instagram*, Meta (June 23, 2022),
<https://about.fb.com/news/2022/06/new-ways-to-verify-age-on-instagram/>. Meta explained the
 choice of age by saying that they provide users under 18 with an experience that is appropriate for
 their age, including “preventing unwanted contact from adults they don’t know.” Instagram,
Introducing New Ways to Verify Age on Instagram, Meta (June 23, 2022),

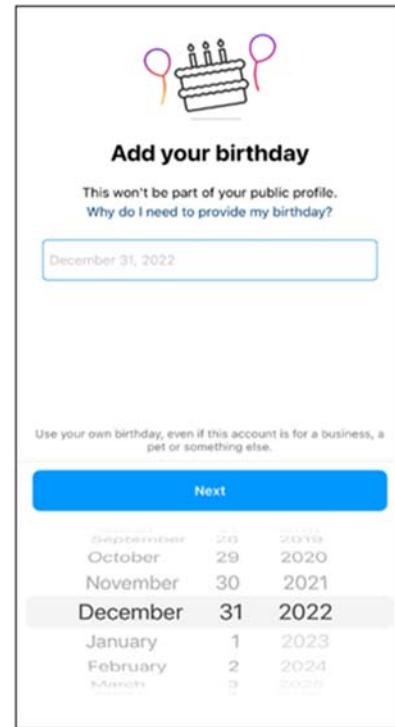
1 331. But even this minimal age verification procedure is toothless. Well over a year since
 2 the Congressional testimony of whistleblower Frances Haugen regarding the harm Meta causes to
 3 minors, Meta still does not as a default matter require users to verify their ages upon signing up to
 4 use Instagram or Facebook. Users are only asked to self-report their birthday:

5

6 
 When's Your Birthday?
 December 31, 2022
 You can choose who can see this from your profile.
 Why do I need to provide my birthday?
 Continue
 September 28 2019
 October 29 2020
 November 30 2021
December 31 2022
 January 1 2023
 February 2 2024
 March 3 2025

(Facebook, January 2023)

7

8 
 Add your birthday
 This won't be part of your public profile.
 Why do I need to provide my birthday?
 December 31, 2022
 Use your own birthday, even if this account is for a business, a
 pet or something else.
 Next
 September 28 2019
 October 29 2020
 November 30 2021
December 31 2022
 January 1 2023
 February 2 2024
 March 3 2025

(Instagram, January 2023)

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 10 332. If the user reports a birthday indicating they are less than 13 years old, they are
 11 informed that they cannot create an account. However, after acknowledging this message, users can
 12 immediately reattempt to create an account and input an eligible birthday. When a user enters an
 13 eligible birthday, there are no restrictions to creating an account, other than having it linked to a
 14 cell phone number or an email address. In other words, Meta routinely allows pre-teens to
 15 misrepresent their age as 13 or 40 or any other age—without so much as asking for proof. This is
 16 analogous to selling a teenager alcohol who has admitted to being under 21 but then promptly
 17 changed his story.

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<https://about.fb.com/news/2022/06/new-ways-to-verify-age-on-instagram/>. However, as described
 28 below, each week hundreds of thousands of children are inappropriately contacted by adults on
 Instagram.

1 333. The upshot is that, in a matter of seconds, and without age verification, identity
 2 verification, or parental consent, children of all ages can create a Facebook or Instagram account,
 3 and immediately become subject to the products' various addictive and harmful features.⁴⁵⁰

4 334. There can be no serious debate about whether Meta has more effective age
 5 verification tools at its disposal. Meta has internal age identification models, such as the
 6 "teen_non_teen" model or the "dim_ig_age_prediction_adult_classifier," that can estimate a user's
 7 age.⁴⁵¹ Although this tool could be used to identify when a user is under 13 (or, for that matter, if a
 8 user is a teenager and should therefore be safeguarded from particularly injurious aspects of Meta's
 9 products) Meta does not use this safeguard.⁴⁵²

10 335. Perversely, Meta does employ age verification on Instagram—but only when a user
 11 self-reports they are *younger* than 13. In that case, Meta provides a user with what amounts to an
 12 appeal right: "if you believe we made a mistake, please verify your age by submitting a valid photo
 13 ID that clearly shows your face and date of birth."

24

⁴⁵⁰ Similarly, the absence of effective age verification measures means that adult users can claim
 25 to be children—with obvious dangers to the actual children on Meta's products.

26 ⁴⁵¹ Haugen_00003463, at Haugen_00003463- Haugen_00003465; *see also* Ibrahim Mousa Al-
 27 Zaubi, Assef Jafar, & Kadan Aljoumaa, *Predicting customer's gender and age depending on*
 28 *mobile phone data*, 6 Journal of Big Data 18 (Feb 19, 2029),
<https://journalofbigdata.springeropen.com/articles/10.1186/s40537-019-0180-9> (discussing
 generally how a similar age prediction algorithm works).

28 ⁴⁵² Haugen_00003463, at Haugen_00003463-Haugen_00003465.

4:07

5G

Help Us Verify Your Age

You must be at least 13 years old to have an Instagram account. We disabled your account because you are not old enough yet. If you believe we made a mistake, please verify your age by submitting a valid photo ID that clearly shows your face and date of birth.

Full name

Email address

Please provide the email address connected to your account.

Instagram username

Date of birth

Your ID

Choose File no file selected

Please provide a photo of a **valid ID**.

Your photo ID must include your face and date of birth so we can verify your age. After you send us a copy of your ID, it'll be encrypted and stored securely. Your ID won't be visible on your profile, to friends or to other people on Instagram and will be deleted 30 days after submission.

Any additional info

Send

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 help.instagram.com

19 336. That is, instead of asking users to prove they are really *over* 13, Meta asks them if
20 they are really sure they are *under* 13. At best, this reflects a completely upside-down view of
21 Meta’s duty of care, using age verification to screen *in* minor users but not to screen them *out*. At
22 worst, Meta’s “are you sure you’re really under 13” question invites pre-teens to falsify their
23 identification to gain access to Instagram.

24 337. Similarly, Meta imposes unnecessary barriers to the removal of accounts created by
25 children under 13. Since at least April 2018, Instagram and Facebook both accept reports of
26 accounts created by children under 13.⁴⁵³ However, before an Instagram or Facebook account is

⁴⁵³ Report an Underage User on Instagram, Instagram, <https://help.instagram.com/contact/723586364339719?fbclid=IwAR3E5rZo8zvp9Uw3giRoQRM>

1 deleted, Meta requires verification that the child is under the age of 13. For example, Instagram's
 2 reporting page states:

3 if you're reporting a child's account that was made with a false date
 4 of birth, and the child's age can be reasonably verified as under 13,
 5 we'll delete the account. You will not get confirmation that the
 6 account has been deleted, but you should no longer be able to view
 7 it on Instagram. Keep in mind that complete and detailed reports
 (example: providing the username of the account you're reporting)
 help us take appropriate action. If the reported child's age can't
 reasonably be verified as under 13, then we may not be able to take
 action on the account.⁴⁵⁴

8 Facebook's reporting page contains almost identical language.⁴⁵⁵ By choosing to implement age
 9 verification only before deleting accounts of users suspected to be children, but not when those
 10 accounts are first created, Meta makes it more difficult to prove a user is under age 13 than it does
 11 for a minor to pretend to be over 13.

12 338. It is unclear how long Meta takes to delete a reported account on average, if it does
 13 so at all. Meta has ignored some parents' attempts to report and deactivate accounts of children
 14 under 13 years old.

15 339. Zuckerberg has stated that he believes children under 13 should be allowed on
 16 Facebook,⁴⁵⁶ so Meta's lax approach to age verification is no surprise.

17 340. Meta's approach to underage users of its product has consistently been one of
 18 feigned ignorance. On October 10, 2021, Senator Marsha Blackburn reported that a young celebrity
 19 told Instagram CEO Adam Mosseri that she had been active on Instagram since she was eight.
 20 Mosseri replied that he "didn't want to know that."⁴⁵⁷

21
 22 [y5qFmIGpy-NOLLtpctH0wkaXtfJ1ft9O09Q; Report an Underage Child](https://www.facebook.com/help/contact/209046679279097), Facebook,
<https://www.facebook.com/help/contact/209046679279097>.

23 ⁴⁵⁴ [Report an Underage User on Instagram](https://help.instagram.com/contact/723586364339719?fbclid=IwAR3E5rZo8zvp9Uw3giRoQRMy5qFmIGpy-NOLLtpctH0wkaXtfJ1ft9O09Q), Instagram,
<https://help.instagram.com/contact/723586364339719?fbclid=IwAR3E5rZo8zvp9Uw3giRoQRMy5qFmIGpy-NOLLtpctH0wkaXtfJ1ft9O09Q>.

24 ⁴⁵⁵ [Reporting an Underage Child](https://www.facebook.com/help/contact/209046679279097), Facebook,
<https://www.facebook.com/help/contact/209046679279097>.

25 ⁴⁵⁶ Kashmir Hill, *Mark Zuckerberg Is Wrong About Kids Under 13 Not Being Allowed on Facebook* (May 20, 2011), <https://www.forbes.com/sites/kashmirhill/2011/05/20/mark-zuckerberg-is-wrong-about-kids-under-13-not-being-allowed-on-facebook/?sh=2ea85e825506>.

26 ⁴⁵⁷ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), available at

1 341. But Meta *does* know that its age-verification protocols are inadequate to keep minors
 2 off Facebook and Instagram. According to a May 2011 ABC News report, “about 7.5 million
 3 [Facebook] users in the U.S. are under the age of 13, and about 5 million are under the age of 10.”⁴⁵⁸
 4 Meta knows through retrospective cohort analyses that “up to 10 to 15% of even 10-year-olds in a
 5 given cohort may be on Facebook or Instagram.”⁴⁵⁹

6 342. Meta knows that its chosen method of registration does not adequately protect minor
 7 users from reporting inaccurate and implausible age information. As one product engineer
 8 cautioned while analyzing the age of Facebook users, “Don’t believe anything in the stated age
 9 graph for under 30. They are all mixed up … We have way more people who say they are born in
 10 the early 90’s than exist in the population.”⁴⁶⁰

11 343. Meta’s internal studies confirm its knowledge that kids, tweens, and teens use its
 12 products. In one study, Meta researched children as young as seven and found that in the fifth grade,
 13 “social media becomes a part of their digital diet.”⁴⁶¹ Moreover, they identified that 24% of children
 14 aged 7-9 and 38% of tweens aged 10-12 have at least one social media account,⁴⁶² and specifically
 15 stated that Instagram’s perceived user base included middle schoolers.⁴⁶³

16 344. Another internal post reveals Meta’s knowledge of the widespread use of Instagram
 17 by preteens, as well as its targeting of children under the age of 13. In a study from around January
 18 2021, titled “The Role of the Teen in Shaping a Household’s Experience of Instagram,” Meta
 19 expressed a desire to utilize teenagers as the doorway into capturing an entire household of users,
 20

21 <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

22 ⁴⁵⁸ Ki Mae Heussner, *Underage Facebook Members: 7.5 Million Users Under Age 13*, ABC
 23 (May 9, 2011), <https://abcnews.go.com/Technology/underage-facebook-members-75-million-users-age-13/story?id=13565619>.

24 ⁴⁵⁹ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), available at
 25 <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

26 ⁴⁶⁰ Haugen_00012303 at Haugen_00012314.

27 ⁴⁶¹ Haugen_00023849 at Haugen_00023910.

28 ⁴⁶² Haugen_00023849 at Haugen_00023866.

28 ⁴⁶³ Haugen_00023849 at Haugen_00023879.

1 including children under age 13.⁴⁶⁴ The post explains that teens can be used to teach their preteen
2 siblings how to join while underage and to help them develop a habit of using and posting
3 indiscriminately.⁴⁶⁵ The article expresses concern that some teens may teach their preteen siblings
4 to post less and recommends that Meta combat this by changing perceptions among teens, so that
5 they will instruct their preteen siblings to use Instagram more spontaneously.⁴⁶⁶ Key discussion
6 points from this document include:

Teens strongly influenced preteens' understanding of what and how frequently to share on IG, even discouraging them from sharing We need to understand IG myths circulating among teens to inform comms and shift the perception of sharing on IG. . . .

Historically, teens have been a key focus for IG. Acquiring and maintaining them continues to be a priority, reflected by investment in new features like Reels. Additionally, capturing the teen user cohort on IG is critical as we think about Instagram's role within the broader family of apps. . . . [Teens] are typically the first in a household to join. In many cases they're also critical to the onboarding process of parents and preteens alike. . . .

Older teens were IG catalysts for preteens. Most preteens became curious about and wanted an IG account because of their older sibling. In some cases, preteens even relied on their older sibling to create and set up their account, seeking their guidance on a username, profile, and accounts to [F]ollow. . . . If we're looking to acquire (and retain) new users we need to recognize a teen's influence within the household to help do so, and the potential ripple effect. . . .⁴⁶⁷

8 345. Meta has not used its concerning knowledge about preteen use and engagement to
9 comply with COPPA. Far to the contrary, it has leveraged its research to manipulate households
20 and target preteens through their siblings.

e. Facebook's and Instagram's parental controls are defective.

22 346. Facebook and Instagram lack adequate parental controls, which hinders parents'
23 ability to monitor and protect their children from harm.

347. Despite its obligations under COPPA, Meta does not require “verifiable parental consent” for minors to use Facebook or Instagram. Meta has chosen to avoid its obligations by

⁴⁶⁴ Haugen 00016728 at Haugen 00016728.

⁴⁶⁵ Haugen 00016728 at Haugen 00016728-Haugen 00016732.

⁴⁶⁶ Haugen 00016728 at Haugen 00016736-Haugen 00016740.

467 Haugen 00016728 at Haugen 00016730 Haugen 00016730.

1 *purporting* to ban children younger than 13, despite knowing that such children continue to access
 2 and use its products due to its inadequate age verification methods.

3 348. Meta's lackadaisical approach to complying with COPPA is palpable in its internal
 4 documents. To Meta, "the COPPA line is simple: we treat 13+ like other users and ask younger
 5 people not to use our products."⁴⁶⁸

6 349. While COPPA requires parental consent only for users under the age of 13, a
 7 reasonable company that knows or should have known its products are harmful to adolescents
 8 would require parental consent for *any* minor to use them. But Meta's lack of parental consent
 9 requirement for any underage users robs parents of an important way to protect their children from
 10 the harms caused by Instagram and Facebook.

11 350. Those apps largely lack parental controls, despite their ready availability,
 12 affordability, and ease of implementation. For example, Meta has chosen not to: (a) require
 13 children's accounts on Facebook and Instagram to be linked to their parents', as it does with another
 14 one of its products, Messenger Kids;⁴⁶⁹ (b) send reports of a child's activity to parents; (c) allow
 15 parents to implement maximum daily usage limitations or to prohibit use during certain hours
 16 (school, sleep hours, etc.); (d) notify parents about interactions with accounts associated with
 17 adults; (e) notify parents when CSAM is found on a minor's account; or (f) require parental
 18 approval before a minor can follow new accounts.

19 351. Controls like these would enable parents to track the frequency, time of day, and
 20 duration of their child's use, identify and address problems arising from such use, and better
 21 exercise their rights and responsibilities as parents. It is reasonable for parents to expect that social
 22 media companies that actively promote their products to minors will undertake reasonable efforts
 23 to notify parents when their child's use becomes excessive, occurs during sleep time, or exposes
 24 the child to harmful content. Meta could feasibly design Instagram and Facebook to do so at
 25 negligible cost.

26 ⁴⁶⁸ Haugen_00017238 at Haugen_00017240.
 27 ⁴⁶⁹ Loren Chang, *Introducing Messenger Kids, a New App for Families to Connect*, Meta (Dec. 4,
 28 2017), <https://about.fb.com/news/2017/12/introducing-messenger-kids-a-new-app-for-families-to-connect/>.

1 352. Meta creates a foreseeable risk to Plaintiffs through its defective products and then
 2 attempts to shift the burden of protection from those products onto parents. As troublingly, Meta
 3 intentionally designs Facebook and Instagram so that children can easily evade their parents'
 4 supervision. Instagram and Facebook allow children to create a limitless number of anonymous
 5 accounts without parental approval or knowledge, and also allows kids to block their parent's
 6 profile.⁴⁷⁰ On Instagram, children can post stories to "Close Friends Only" (i.e., to a select group
 7 of followers), excluding their parents. On Facebook, children can place their parents on a "restricted
 8 list" of people who are unable to view their stories.

9 353. Meta has intentionally designed many aspects of Instagram and Facebook to
 10 undermine parental supervision in an effort to maximize teen usage: "If Mom starts using an app
 11 all the time, the app can lose a 'cool' factor, if we're not conscious of separation."⁴⁷¹ "We should
 12 be thinking about how parents being on Instagram might effect graph management and teen
 13 engagement over time. Discovery/usage of additional accounts could prove critical for authentic
 14 sharing by teens."⁴⁷²

15 354. As one internal document described the issue:

16 [...]re teens able to maintain spaces that feel sacred to them (and their
 17 friends) or do we see decreased usage or new behavior patterns
 18 emerge as household members join? . . . Preservation of protected
 19 spaces with require: [1] Learning how to create spaces within the app
 where teens feel like they have privacy from both their own parents
 but also privacy from non-peers (e.g. Aunt Sally, neighbor down the
 street, teachers, etc.). [2] Finding opportunities, such as [...]close

20 ⁴⁷⁰ In 2018, Meta observed that "the participation rate of multiple account switching (basically the
 21 equivalent of Finstas) [was] going up," with 36% of teens engaging in multiple account
 22 switching. Haugen_00017698 at Haugen_00017784. "Finsta," a widely used slang term, is a
 23 contraction of "fake" and "Insta" (short for Instagram). Caity Weaver and Danya Issawi, '*Finsta,*'
Explained, N.Y. Times (Sept. 30, 2021), <https://www.nytimes.com/2021/09/30/style/finsta-instagram-accounts-senate.html>. "It is neither an official designation nor a type of account offered
 24 by Facebook. Rather, it is a term many users ascribe to secondary accounts they create for
 25 themselves on Instagram, where their identities — and, often, the content of their posts — are
 obscured to all but a small, carefully chosen group of followers." Caity Weaver and Danya
 Issawi, '*Finsta,*' *Explained*, N.Y. Times (Sept. 30, 2021),
<https://www.nytimes.com/2021/09/30/style/finsta-instagram-accounts-senate.html>.

26 ⁴⁷¹ Haugen_00016728 at Haugen_00016735.

27 ⁴⁷² Haugen_00011969 at Haugen_00011974-75. "Graph management" apparently refers to efforts
 28 by a user to unfollow accounts, i.e. "prun[e]." META3047MDL-003-00146492 at
 META3047MDL-003-00146495; META3047MDL-003-00178437.

1 friends[”] where teens have their own, protected peer communities.
 2 [3] Understanding the value of certain features being more complex
 3 (i.e. indirectly made for teens because more challenging for parents
 or preteens). Both snapchat and TikTok are somewhat confusing to
 parents, in turn affording teens a protected place to play/engage.⁴⁷³

4 355. Meta’s internal documents recognize that parents are largely ill-equipped to protect
 5 children from its products. For example, one employee asserted in the discussion of a focus group
 6 survey regarding the mental health impact of Meta’s products on teenagers:

7 The other big reason that parents are not a source of support has to
 8 do with parents’ ability (or really, their inability) to understand what
 9 adolescence in the age of social media looks and feels like. The
 10 parents of today’s teens came of age before social media, so they
 11 don’t know and *can’t* what it’s like to live in what feels like a
 12 constant spotlight. When today’s parents were teens, social
 comparison was much more limited both in terms of scope and scale.
 Teens today compare themselves to many more people, much more
 often, and about more parts of life than their parents did during their
 adolescence. In addition, today’s parents were able to turn it off when
 they went home, while teens feel compelled to be on social media all
 the time.⁴⁷⁴

13 356. When employees have raised the possibility of additional safeguards—“could we
 14 offer a parental control feature so that parents and kids could learn and cope together?”—Meta has
 15 consistently ignored them.⁴⁷⁵

16 357. Finally, Meta has failed to develop effective reporting tools to deal with abuse
 17 directed at children through Instagram and Facebook. Meta does not have a phone number that a
 18 parent or child can call to report such abuse in real time. Its online reporting mechanisms lack an
 19 immediate response mechanism, regardless of the seriousness of the harm at issue. And certain
 20 Plaintiffs have found that Meta declined to respond to reports filed through its online reporting tool,
 21 citing technical issues.

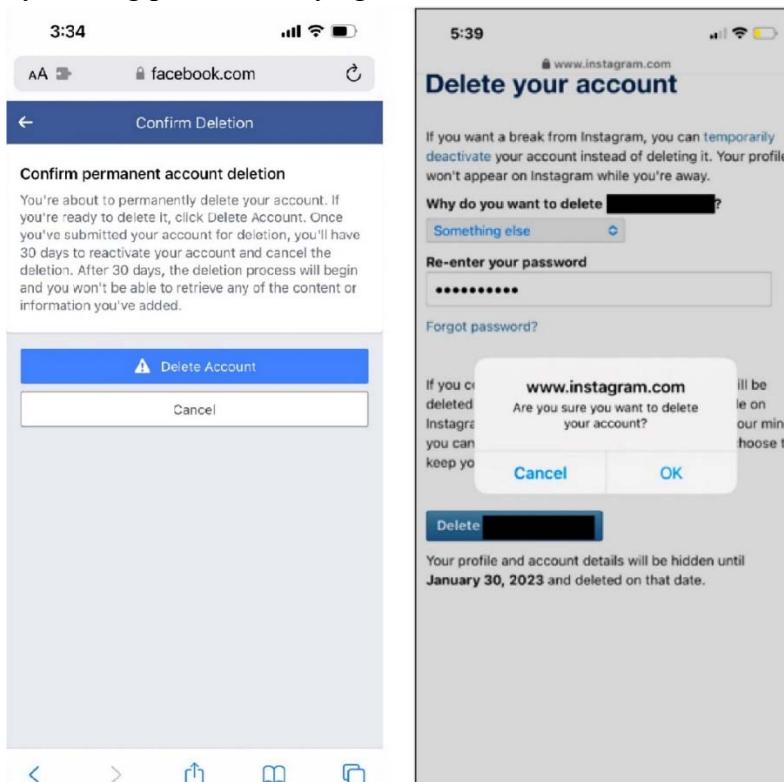
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 27 ⁴⁷³ Haugen_00016728 at Haugen_00016735.
 28 ⁴⁷⁴ Haugen_00017069 at Haugen_00017173.
⁴⁷⁵ Haugen_00017069 at Haugen_00017173.

f. **Facebook's and Instagram's defective features include impediments to discontinuing use.**

358. Meta has intentionally and defectively designed its products so that adolescent users, including Plaintiffs, face significant navigational obstacles and hurdles when trying to delete or deactivate their accounts, in contrast to the ease with which users can create those accounts.

359. Currently, to delete or deactivate an Instagram or Facebook account, a user must locate and tap on approximately seven different buttons (through seven different pages and popups) from the main feed. Some Plaintiffs have given up in their attempt to quit because it was too difficult to navigate through the interface to completion.

360. Even if a user successfully navigates these seven pages, Meta still won't immediately delete their account. Instead, Meta preserves the account for 30 more days. If at any time during those 30 days a user's addictive craving becomes overwhelming and they access the account again, the deletion process starts over. The user must go through all the above steps again, including the 30-day waiting period, if they again wish to delete their account.



(Facebook Final Deletion Screen February 2023)

(Instagram Final Deletion Screen,
January 2023)(account name
redacted)

1 361. Moreover, the deletion process includes what Meta readily acknowledges are
 2 “aggressive” attempts to dissuade users from deleting their accounts.⁴⁷⁶ Before a user can delete
 3 their Facebook account, Meta “lists some of your friends to remind you that they will no longer be
 4 able to contact you through the site and more importantly, [requires] the user to choose a reason for
 5 why they’re leaving.”⁴⁷⁷ Meta also requires users attempting to leave Instagram to select a reason
 6 why they are leaving.

7 362. As an additional barrier to deletion, Meta urges users of both products to deactivate,
 8 rather than delete, their accounts. For example, Instagram users who choose to delete their accounts
 9 are immediately shown a screen with their profile picture and asked: “Deactivate your account
 10 instead of deleting?” The option to deactivate is conspicuously highlighted. Similarly, Facebook
 11 displays a screen that automatically selects the option of deactivating rather than deleting a user
 12 account.

13 363. Meta’s aggressive efforts to prevent users from discontinuing their use of Facebook
 14 and Instagram is particularly problematic because unsuccessful efforts to discontinue use are a
 15 hallmark of addiction, incorporated as the sixth criteria in the *Bergen Social Media Addiction Scale*,
 16 discussed above.

17 **4. Meta has concealed from Plaintiffs, the public, and Congress the
 18 harmful effects that Instagram’s and Facebook’s design have on
 children.**

19 364. Meta has engaged in a years-long pattern of concealing critical information about
 20 the safety of Instagram and Facebook from the public, including Plaintiffs and their parents. In one
 21 internal document from February 2018, employees at Meta communicated internally about how
 22 best to “refin[e] counter-messaging around the addiction narrative that’s been propagating.” This
 23 effort to conduct “message testing around addiction PR responses” included the ideas that “[t]he
 24 whole dopamine thing is completely made up and based on no research,” “[t]here’s no agreement

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27 ⁴⁷⁶ Haugen_00016893 at Haugen_0001689398.

28 ⁴⁷⁷ Haugen_00016893 at Haugen_0001689398.

1 on what is meant by addiction,” and (contradictorily) “[w]e’re taking it seriously, doing research,
 2 [and] launching new tools to help people.”⁴⁷⁸

3 365. Meta knew that none of this was true. For instance, in the summer of 2019,
 4 Zuckerberg met with a psychologist and leading expert on the mental health effects of social media
 5 on young people. This leading expert countered Zuckerberg’s contention that harms from social
 6 media are trivial and explained how, to the contrary, Instagram and other products have been a
 7 major contributor to the spike in young girls’ mental health problems since 2012. The psychologist
 8 addressed his research “on the dramatic rise in rates of teenage anxiety, depression, and self-harm”
 9 and explained how the research on social media’s role “points heavily to a connection, not just from
 10 correlational studies but from true experiments, which strongly indicate causation, not just
 11 correlation.”⁴⁷⁹

12 366. Instead of “taking [this] seriously” and “launching new tools” to protect kids,⁴⁸⁰
 13 Meta did the opposite. By late 2019, Meta’s “mental health team stopped doing things,” “it was
 14 defunded” and “completely stopped.”⁴⁸¹ And, as noted, Meta allowed safety tools it knew were
 15 broken to be held out as fixes.⁴⁸² All the while, Meta ignored cries from their well-being researchers
 16 to aggressively confront its youth safety problem: “there’s so much more we could have done
 17 here … [but] there was the explicit decision last half not to fund this anymore.”⁴⁸³

18 367. Despite knowing better, Meta’s high-ranking executives then began pushing
 19 intentionally misleading talking points to the public. Instead of informing the public about Meta’s
 20 internal research demonstrating Instagram’s and Facebook’s negative impacts on the health and
 21 well-being of the nation’s youth, Meta repeatedly omitted key facts and misrepresented its products
 22 in service of an overall message touting the safety of its products for children.

23
 24 ⁴⁷⁸ META3047MDL-003-00082165 at META3047MDL-003-00082165- META3047MDL-003-
 25 00082165.

26 ⁴⁷⁹ META3047MDL-003-00089174 at META3047MDL-003-00089176.

27 ⁴⁸⁰ META3047MDL-003-00082165 at META3047MDL-003-00082165- META3047MDL-003-
 28 00082165.

⁴⁸¹ META3047MDL-003-00011697 at META3047MDL-003-00011698.

⁴⁸² See *supra* ¶ 302.

⁴⁸³ META3047MDL-003-00103260 at META3047MDL-003-00103260.

1 368. Because of Meta's concealment, Plaintiffs, Consortium Plaintiffs, the public, and
 2 Congress were left in the dark and reasonably relied on Meta's reassurances. Had Meta disclosed
 3 the truth regarding its products, Plaintiffs and Consortium Plaintiffs would have been able to avoid
 4 or mitigate, and many would have avoided and mitigated, the harms they ultimately suffered by
 5 using Meta's products. Instead, Meta pursued a knowing pattern of concealment to Plaintiffs'
 6 detriment.

7 369. In the year leading up to Meta's acquisition of Instagram, Meta publicly
 8 acknowledged its duty to children and worked to create false expectations about its products' safety.
 9 For example,

- 10 a. Zuckerberg (3/25/2011): "So, we're really focused on, on safety, especially
 11 children's safety. So we're having folks under the age of 18, um we, we just
 12 take a lot of extra precautions for it, to make sure that it's just a safe
 13 environment for them um, to use this service that you know, the default for,
 14 for people sharing things isn't that they're sharing with everyone but that
 15 they're sharing with a smaller community ... But I think, I think that's a lot
 16 of it. We really try to build a safe environment. Um, and um, that's gonna be
 17 the key long term."⁴⁸⁴
- 18 b. Zuckerberg (3/25/2011): "Right, and they, they feel like Facebook is this
 19 really secure place and that it's a hundred percent safe, and um, we're always
 20 thinking about little and big things like that that we can do to keep it safe for,
 21 for the people who use our service."⁴⁸⁵
- 22 c. Zuckerberg (5/25/2011): "I mean, we do not allow people under the age of
 23 13 to sign up and I think if we ever were, we would need to try to figure out
 24 a lot of ways to make sure that they were safe, right, because that's just

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⁴⁸⁴ *Mark Zuckerberg at BYU with Senator Orrin Hatch*, YouTube, March 25, 2011,
 27 <http://www.youtube.com/watch?v=zRsbWOmmvNo>.

28 ⁴⁸⁵ *Mark Zuckerberg at BYU with Senator Orrin Hatch*, YouTube, March 25, 2011,
 <http://www.youtube.com/watch?v=zRsbWOmmvNo>.

extremely important and that's just not the top of the list in terms of things for us to figure out right now.”⁴⁸⁶

370. Following Meta's acquisition of Instagram, high-ranking executives continued to make public pronouncements about the safety of Meta's products, including but not limited to the following statements:

- a. Zuckerberg (12/1/2015): “We will do our part to make this [better world] happen, not only because we love you, but also because we have a moral responsibility to all children in the next generation.”⁴⁸⁷
- b. Zuckerberg (4/11/2018): “Congressman, we have a number of measures in place to protect minors specifically. We make it so that adults can’t contact minors who they - they aren’t already friends with. We make it so that certain content that may be inappropriate for minors, we don’t show.”⁴⁸⁸
- c. Zuckerberg (4/10/2018): when asked by members of the U.S. Senate Committee on Commerce, Science, and Transportation whether his companies “[h]ire consulting firms to help them figure out how to get more dopamine feedback loops so that people don’t want to leave the platform”: “No . . . that’s not how we talk about this or how we set up our product teams. We want our products to be valuable to people, and if they’re valuable, then people choose to use them.”⁴⁸⁹

⁴⁸⁶ Maurice Levy, *Conversation with Mark Zuckerberg at E-G8 Forum*, YouTube, May 25, 2011, <http://www.youtube.com/watch?v=Gy0bq9FAJRs>.

⁴⁸⁷ Mark Zuckerberg, Facebook (Dec. 1, 2015), <https://www.facebook.com/zuck/posts/10153375081581634>.

⁴⁸⁸ Transcript of Zuckerberg's appearance before House committee, Wash. Post (April 11, 2018) https://www.washingtonpost.com/news/the-switch/wp/2018/04/11/transcript-of-zuckerbergs-appearance-before-house-committee/?utm_term=.e7b476fb8ac7&noredirect=on.

⁴⁸⁹ Facebook, Social Media Privacy, and the Use and Abuse of Data: Hearing Before the S. Comm. on Commerce, Sci., and Transp. and H. Comm's on the Judiciary and Commerce, Sci., and Transp., 115th Cong. (Apr. 10, 2018), available at <https://www.commerce.senate.gov/2018/4/facebook-social-media-privacy-and-the-use-and-abuse-of-data>.

1 d. Zuckerberg (7/12/2018): “There are really two core principles at play here.
 2 There’s giving people a voice, so that people can express their opinions.
 3 Then, there’s keeping the community safe, which I think is really
 4 important.”⁴⁹⁰

5 e. Zuckerberg (7/25/2018): “[W]e will continue to invest heavily in security
 6 and privacy because we have a responsibility to keep people safe. But as I’ve
 7 said on past calls, we’re investing so much in security that it will
 8 significantly impact our profitability.”⁴⁹¹

9 f. Zuckerberg (8/21/2018): “One of the most important responsibilities we
 10 have as a company is to keep people safe and stop anyone from abusing our
 11 service.”⁴⁹²

12 g. Zuckerberg (9/7/2018): “What I’ve learned so far is that when you build
 13 services that are used by billions of people across countries and cultures, you
 14 will see all of the good humanity is capable of, and people will try to abuse
 15 those services in every way possible. It is our responsibility to amplify the
 16 good and mitigate the bad.”⁴⁹³

17 h. Zuckerberg (11/15/2018): “[W]e have a responsibility to keep people safe
 18 on our services -- whether from terrorism, bullying, or other threats.”⁴⁹⁴

20 ⁴⁹⁰ Kara Swisher, *Zuckerberg: The Record Interview*, Vox (July 12, 2018)
<https://www.vox.com/2018/7/18/17575156/mark-zuckerberg-interview-facebook-recode-kara-swisher>.

21 ⁴⁹¹ Facebook, Inc., *Second Quarter 2018 Results Conference Call* (July 25, 2018)
https://s21.q4cdn.com/399680738/files/doc_financials/2018/Q2/Q218-earnings-call-transcript.pdf.

23 ⁴⁹² Mark Zuckerberg, Facebook (Aug. 21, 2018),
https://www.facebook.com/zuck/posts/10105188590724391?_tn_=K-R.

24 ⁴⁹³ Mark Zuckerberg, Facebook (Sept. 7, 2018),
https://www.facebook.com/zuck/posts/10105224999156601?_xts_%5B0%5D=68.AR273c8TJkMqNAclfl-i0UB6fVWHZ_hO4k0KASCy8XfVdyC9XEVqoPLsPUPDh94zSHboQiB1t3mSIP9yEUyjvaEF50UXoUqVca4ZcM4nnkQ3MWz3dBGRQYm7lJMj_Cbl25p7a9-HX-aXjkjNdS21XzaAThg9PfkrzJ_dTLszwUZ3H6b3Q4biIc&_tn_.

27 ⁴⁹⁴ Mark Zuckerberg, Facebook (Nov. 15, 2018), <https://www.facebook.com/notes/mark-zuckerberg/a-blueprint-for-content-governance-and-enforcement/10156443129621634/>.

- 1 i. Zuckerberg (1/1/2019): “We ended 2018 with more than 30,000 people
2 working on safety and security -- up from 10,000 people a couple of years
3 ago.”⁴⁹⁵
- 4 j. Zuckerberg (1/30/2019): “[O]n all the content and safety and security issues,
5 there’s more to do here but I’m proud of the work that we have done to get
6 in front of a lot more of these issues.”⁴⁹⁶
- 7 k. Zuckerberg (3/30/2019): “[W]e have a responsibility to keep people safe on
8 our services.”⁴⁹⁷
- 9 l. Zuckerberg (4/24/2019): “You should expect we’ll do everything we can to
10 keep you safe on our services, within the bounds of an encrypted service.”⁴⁹⁸
- 11 m. Sheryl Sandberg (1/29/2020): “[We] have to keep people safe and give them
12 control over their experience on our apps. And we are.”⁴⁹⁹
- 13 n. Sheryl Sandberg (10/29/2020): “While we continue to invest in helping
14 businesses, we are equally focused on keeping our platform safe.”⁵⁰⁰
- 15 o. Meta (12/23/2020), when asked by the Senate Committee on the Judiciary
16 whether it could “determine whether increased use of their platform among
17 teenage girls has any correlation with increased signs of depression [or
18 anxiety]”: “No.” And, when asked what research Meta had conducted

20 ⁴⁹⁵ Meta Investor Relations, *Earnings Call Transcript*, Meta (Jan. 1, 2019),
21 <https://investor.fb.com/investor-events/event-details/2019/Facebook-Q4-2018-Earnings/default.aspx>.

22 ⁴⁹⁶ Meta Investor Relations, *Earnings Call Transcript*, Meta (Jan. 30, 2019),
23 <https://investor.fb.com/financials/default.aspx>.

24 ⁴⁹⁷ Mark Zuckerberg, *Mark Zuckerberg: The Internet needs new rules. Let’s start in these four areas*, Wash. Post (March 30, 2019), https://www.washingtonpost.com/opinions/mark-zuckerberg-the-internet-needs-new-rules-lets-start-in-these-four-areas/2019/03/29/9e6f0504-521a-11e9-a3f7-78b7525a8d5f_story.html?noredirect=on.

25 ⁴⁹⁸ Mark Zuckerberg, Facebook (April 24, 2019),
26 <https://www.facebook.com/zuck/posts/10107243286682221>.

27 ⁴⁹⁹ Meta Investor Relations, *Earnings Call Transcript*, Meta (Jan. 29, 2020),
28 <https://investor.fb.com/investor-events/default.aspx>.

1 internally on the mental health impacts of social media use: “[t]he effects of
 2 social media are still being studied.”⁵⁰¹

3 p. Zuckerberg (3/25/21), when asked by members of the U.S. House of
 4 Representatives Committee on Energy and Commerce, “Do you believe that
 5 your platform harms children?”: “I don’t believe so. This is something that
 6 we study and we care a lot about; designing products that improve peoples’
 7 well-being is very important to us. And what our products do is help people
 8 stay connected to people they care about, which I think is one of the most
 9 fundamental and important human things that we do, whether that’s for teens
 10 or for people who are older than that.”⁵⁰²

11 q. David Wehner, Chief Financial Officer of Meta (4/28/2021): “I mean, the
 12 only thing I’d add . . . is that, I think more than anyone else in the industry,
 13 we invest on the safety and security side to sort of keep bad content off the
 14 site before it gets ranked and put into what people see. So we’ve got 35,000
 15 -- over 35,000 people on the safety and security side. We’ve got the most
 16 robust set of content policies out there. We do a quarterly call, public call
 17 around our content review process and procedures. So I think that on the
 18 front, before it even gets into the algorithm, I think we really do more than
 19 anyone else in the industry on the safety and security front to prevent things

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 24 ⁵⁰¹ *Facebook, Inc. Responses to Questions for the Record from the Comm. on the Judiciary*
November 17, 2020 Hearing: Breaking the News: Censorship, Suppression, and the 2020
Election, at 124-125 (December 23, 2020), available at
<https://www.judiciary.senate.gov/imo/media/doc/Zuckerberg%20Responses%20to%20QFRs.pdf>.

25 ⁵⁰² *Disinformation Nation: Social Media’s Role in Promoting Extremism and Misinformation*
Hearing Before H. Energy and Commerce Subcomm. on Communications and Technology
 26 (March 25, 2021), available at
<https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-20210325.pdf>.

1 like misinformation and a bad content going into the system in the first
 2 place.”⁵⁰³

3 r. [Adam Mosseri \(5/2021\)](#): in statement to reporters, dismissing concerns
 4 around Instagram’s negative impact on teens as “quite small.”⁵⁰⁴

5 371. On each of the above occasions, and on many others, Meta touted the safety of its
 6 products; it could have but failed to disclose information it knew concerning the significant risks
 7 associated with its products, even though it knew that the public lacked access to this information.
 8 For instance, in a December 2019 memo, Meta’s Chief Technology Officer, remarked that the
 9 media has “limited information to work with” about the company and that this limitation is by
 10 Meta’s “own design.”⁵⁰⁵

11 372. Meta’s pattern of intentional concealment came to a head in August 2021, just weeks
 12 before Frances Haugen dropped her bombshell revelations on the public. On August 4, 2021,
 13 Senators Marsha Blackburn and Richard Blumenthal wrote to Mark Zuckerberg. The Senators’
 14 letter observed that “[a]n expanding volume of scientific research shows that social media platforms
 15 can have a profoundly harmful impact on young audiences” and noted “grave concerns about
 16 [Meta’s] apparent effort to ensnare children into social media platforms at earlier and earlier
 17 ages.”⁵⁰⁶ The letter concluded by asking Zuckerberg six “pretty straightforward questions about
 18 how the company works and safeguards children and teens on Instagram.”⁵⁰⁷

19 ⁵⁰³ Meta Investor Relations, *Earnings Call Transcript*, Meta (April 28, 2021),
 20 <https://investor.fb.com/investor-events/event-details/2021/Facebook-Q1-2021-Earnings-/default.aspx>.

21 ⁵⁰⁴ Taylor Hatmaker, *Facebook Knows Instagram Harms Teens. Now its Plan to Open the App to*
Kids Looks Worse than Ever, TechCrunch (Sept. 16, 2021), available at
<https://techcrunch.com/2021/09/16/facebook-instagram-for-kids-mosseri-wsj-teen-girls/>.

22 ⁵⁰⁵ Haugen_00007350 at Haugen_00007350 (Dec. 30, 2019 memo by Andrew Bosworth
 23 regarding “Thoughts for 2020”).

24 ⁵⁰⁶ Letter from Richard Blumenthal, U.S. Senator, to Mark Zuckerberg, Chief Executive Officer
 25 of Facebook (Aug. 4, 2021), available at
<https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-%20Mental%20Health%20and%20Kids%20Letter.pdf>.

26 ⁵⁰⁷ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm.*
On Consumer Protection, Product Safety, and Data Security (Oct. 5, 2021), available at
<https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20facebook%20whistleblower>. See also, Letter from Richard Blumenthal, U.S. Senator,
 27 to Mark Zuckerberg, Chief Executive Officer of Facebook (Aug. 4, 2021), available at
 28

1 373. In its August 17, 2021 written response to Senators Blackburn and Blumenthal,
 2 Meta omitted any reference to the internal research it had conducted demonstrating the negative
 3 impact Instagram can have on kids' mental health.⁵⁰⁸

4 374. The Senators' letter asked whether Meta had ever developed products or features
 5 "that it had reason to believe could have a negative effect on children's and teens' mental health or
 6 well-being."⁵⁰⁹ Meta responded by claiming it had "built many special protections for teens."⁵¹⁰
 7 But it failed to mention, for example, that it employed "growth hackers" who internally advised,
 8 "we can be very aggressive with our notifications to create a habit."⁵¹¹

9 375. The Senators' letter also asked if Meta's research had "ever found that its platforms
 10 and products can have a negative effect on children's and teens' mental health or well-being."⁵¹²
 11 Meta responded that the matter was "still being studied,"⁵¹³ that it was challenging to conduct such
 12 research,⁵¹⁴ and that the company was "not aware of a consensus among studies or experts about
 13 how much screen time is 'too much.'"⁵¹⁵ While Meta reiterated its vague and already public

15 <https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-%20Mental%20Health%20and%20Kids%20Letter.pdf>.

16 ⁵⁰⁸ Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S.
 Senator (Aug. 17, 2021),

17 <https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

18 ⁵⁰⁹ Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S.
 Senator 4 (Aug. 17, 2021),

19 <https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

20 ⁵¹⁰ Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S.
 Senator 4 (Aug. 17, 2021),

21 <https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

22 ⁵¹¹ Haugen_00016893 at Haugen_00016914 (Aug. 3, 2017 memo entitled "Have we made people
 23 addicted to Facebook?").

24 ⁵¹² Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S.
 Senator 2 (Aug. 17, 2021),

25 <https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

26 ⁵¹³ Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S.
 Senator 2 (Aug. 17, 2021),

27 <https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

28 ⁵¹⁴ Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S.
 Senator 3 (Aug. 17, 2021),

29 <https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

position that “passive” use of social media can correlate with “negative outcomes,”⁵¹⁶ it failed to disclose any more specific findings.⁵¹⁷

376. Meta should have, but intentionally did not, respond to the Senators' question by disclosing its detailed research regarding addiction to its products, which the company terms problematic usage;⁵¹⁸ its assessment that “[t]he best external research indicates that Facebook's impact on people's well-being is negative”;⁵¹⁹ its identification of “Problematic Use,” loneliness, and social comparison as the three drivers of this negative impact;⁵²⁰ its finding that up to 25% of people on Facebook experience so-called problematic use;⁵²¹ its data showing that “high time spent users do tend to be disproportionately younger users”;⁵²² its conclusion that so-called problematic use causes profound harms, including loss of productivity, sleep disruption, relationship impacts, and safety risks;⁵²³ its identification of multiple Meta product features that act as triggers for so-

⁵¹⁶ Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S. Senator 3 (Aug. 17, 2021),
<https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>; see also Meta Investor Relations, Earnings Call Transcript, Meta (April 25, 2018),
https://s21.q4cdn.com/399680738/files/doc_financials/2018/Q1/Q1-18-Earnings-call-transcript.pdf.

⁵¹⁷ Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S. Senator 6 (Aug. 17, 2021),
<https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

⁵¹⁸ Haugen_00016373 at Haugen_00016379 (Mar. 9, 2020 internal presentation and discussion about problematic use with a slide stating that problematic use “is sometimes referred to as ‘social media addiction’ externally”); Haugen_00016373 at Haugen_00016373 (Mar. 9, 2020 internal presentation and discussion regarding problematic use in which a Meta employee shared a post stating: “In Q4 2019, our Well-being Product Team conducted global qualitative research to better understand ‘problematic’ use (sometimes called ‘social media addiction’ externally”); Haugen_00005458 at Haugen_00005473 (Nov. 5, 2019 report by Meta employee regarding “Hard Life Moments – Mental health deep dive”); Haugen_00007055 at Haugen_00007055 (May 6, 2019 memo by Meta employee regarding “Problematic use / time-spent papers at CHI”).

⁵¹⁹ Haugen_00016373 at Haugen_00016381 (Mar. 9, 2020 internal presentation and discussion about problematic use).

⁵²⁰ Haugen_00016373 at Haugen_00016381.

⁵²¹ Haugen_00016373 at Haugen_00016383.

⁵²² Haugen_00017177 at Haugen_00017181 (Oct. 30, 2018 report by Meta employee regarding “How Behavior on Instagram Varies with Overall Time Spent”); Haugen_00005458 at Haugen_00005750-Haugen_00005751 (Sept. 18, 2019 presentation containing slides about brain maturation).

⁵²³ Haugen_00016373 at Haugen_00016414 (Mar. 9, 2020 presentation stating “All problematic users were experiencing multiple life impacts”).

1 called problematic use;⁵²⁴ its knowledge that teens who feel addicted to a Meta app “know that
 2 what they’re seeing is bad for their mental health but feel unable to stop themselves”;⁵²⁵ its studies
 3 regarding body image and social comparison;^{526,527} its knowledge that Instagram makes body image
 4 issues worse “for one in three teen girls”;⁵²⁸ its analysis showing that topics eliciting appearance
 5 comparison comprise one third of what teen girls see on Instagram;⁵²⁹ its research concluding that
 6 negative social comparison on Instagram gets worse for users over time;⁵³⁰ its awareness that teens
 7 report Instagram as a source of increased anxiety and depression;⁵³¹ its finding that Instagram has
 8 a “consistent bias in favor of harmful content”;⁵³² its knowledge that Meta’s recommendation
 9 algorithms “create an echo chamber” of suicide and self-harm content;⁵³³ its researchers’
 10 conclusion that teens “[h]ave an addict’s narrative about their use” of Instagram;⁵³⁴ and its survey
 11 finding that “[o]ver one third of teens felt they have only a little control of nor control at all over
 12 how Instagram makes them feel”⁵³⁵—in addition to the other findings described in this Complaint.

13 _____
 14 ⁵²⁴ Haugen_00016373 at Haugen_00016410 (“We heard about 10+ triggers contributing to PU
 habits”).

15 ⁵²⁵ Haugen_00017069 at Haugen_00017171 (Oct. 10, 2019 report by Meta employee and
 discussion about teens’ mental health).

16 ⁵²⁶ Haugen_00005458 at Haugen_00005484 (Sept. 18, 2019 presentation regarding “Mental
 Health Findings”).

17 ⁵²⁷ Haugen_00000797 at Haugen_00000797 (Nov. 16, 2018 report regarding “IG Social
 Comparison Research Findings”).

18 ⁵²⁸ Haugen_00005458 at Haugen_00005500 (Sept. 18, 2019 presentation containing a slide
 stating “But, We Make Body Image Issues Worse for 1 in 3 Teen Girls”).

19 ⁵²⁹ Haugen_00002527 at Haugen_00002527 (Mar. 9, 2021 report regarding “How the topics
 people see are linked to appearance comparison on IG”).

20 ⁵³⁰ Haugen_00000797 at Haugen_00000875 (Nov. 16, 2018 report containing a page displaying
 data about negative social comparison over time).

21 ⁵³¹ Haugen_00017069 at Haugen_00017121 (Oct. 10, 2019 presentation containing a slide
 regarding “Teens blame Instagram for increases in the rates of anxiety and depression among
 teens”).

22 ⁵³² Haugen_00003739 at Haugen_00003739 (Undated report regarding “Is Instagram Reels
 Favoring badness?”).

23 ⁵³³ Haugen_00005378 at Haugen_00005379 (Dec. 2, 2020 report regarding “Tackle Community-
 Based Harm in Dangerous Content”).

24 ⁵³⁴ *Subcomm.: Protecting Kids Online: Facebook, Instagram, and Mental Health Harms Hearing
 before Subcomm. On Consumer Protection Product Safety, and Data Security* (Sept. 30, 2021),
 available at <https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms>).

25 ⁵³⁵ *Subcomm.: Protecting Kids Online: Facebook, Instagram, and Mental Health Harms Hearing
 before Subcomm. On Consumer Protection Product Safety, and Data Security* (Sept. 30, 2021),

1 377. Meta's years-long concealment of its research was revealed just weeks later, when
 2 Frances Haugen released these studies, along with a trove of other internal Meta documents, to the
 3 Wall Street Journal. Even these disclosures did not reveal the full scope and extent of Meta's
 4 misrepresentations, discussed elsewhere in this complaint.

5 378. On September 21, 2021, Senator Blumenthal confronted a Meta representative about
 6 the conspicuous omissions in Meta's response to his letter:

7 Last month, on August 4, Senator Blackburn and I wrote to Mark
 8 Zuckerberg and asked him specifically about this issue. We asked,
 9 and I'm quoting, "Has Facebook's research ever found that its
 10 platforms and products can have a negative effect on children's and
 teens' mental health or well-being such as increased suicidal
 thoughts, heightened anxiety, unhealthy usage patterns, negative
 self-image, or other indications of lower well-being?"

11 It wasn't a trick question. It preceded the reports in the Journal. We
 12 had no idea about the whistleblower documents that were ultimately
 revealed.

13 Facebook dodged the question. "We are not aware of a consensus
 14 among studies or experts about how much screen time is too much."

15 We are not aware. Well, we all know now that representation was
 simply untrue.⁵³⁶

16 379. Senator Blumenthal went on to ask the witness, Facebook's Vice President of
 17 Privacy & Public Policy, "why did Facebook misrepresent its research on mental health and teens
 18 when it responded to me and Senator Blackburn?" After disputing the characterization, Satterfield
 19 responded, "The safety and well-being of the teens on our platform is a top priority for the company.
 20 We're going to continue to make it a priority. This was important research." Senator Blumenthal
 21 then went on: "Why did you conceal it?" Satterfield responded, "we didn't make it public because

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 23
 24 available at <https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms>.

25⁵³⁶ Richard Blumenthal, *Blumenthal Demands Facebook Appear at Next Week's Consumer
 26 Protection Subcomm. Hearing to Explain Coverup of its Platforms' Negative Impact on Teens
 and Children* (Sept. 21, 2021), available at
<https://www.blumenthal.senate.gov/newsroom/press/release/blumenthal-demands-facebook-appear-at-next-weeks-consumer-protection-subcommittee-hearing-to-explain-coverup-of-its-platforms-negative-impact-on-teens-and-children>.

1 we don't, with a lot of the research we do because we think that is an important way of encouraging
 2 free and frank discussion within the company about hard issues."⁵³⁷

3 380. Meta unilaterally decided to prioritize "free and frank" internal discussion over
 4 honest and transparent responses to direct questions from sitting United States Senators. When it
 5 "dodged, ducked, sidetracked, [and] in effect misled" Senators Blumenthal and Blackburn, Meta
 6 deceived the public via its elected representatives.⁵³⁸

7 381. Moreover, Satterfield's "free and frank discussion" excuse has been contradicted
 8 both internally and publicly by Meta employees. On January 8, 2020, a Meta software engineer
 9 participated in an internal "ask me anything" session, on the last day of his four-year tenure at the
 10 company. When asked how the Meta Defendants should respond to outside pressures and critiques,
 11 that software engineer stated: "Right now, many employees feel that if they whistleblower, dissent,
 12 give feedback to unethical decisions, etc, then they are at risk for being fired. We can fix that by
 13 giving people the safety to speak up when they see something wrong going on."⁵³⁹

14 382. Frances Haugen echoed this sentiment in her testimony before the Senate, citing
 15 evidence that Meta "is so scared of even basic transparency that it goes out of its way to block
 16 researchers who are asking awkward questions."⁵⁴⁰ Ms. Haugen further testified that Meta's culture

17 ⁵³⁷ Richard Blumenthal, *Blumenthal Demands Facebook Appear at Next Week's Consumer*
 18 *Protection Subcomm. Hearing to Explain Coverup of its Platforms' Negative Impact on Teens*
 19 *and Children* (Sept. 21, 2021), available at
<https://www.blumenthal.senate.gov/newsroom/press/release/blumenthal-demands-facebook-appear-at-next-weeks-consumer-protection-subcommittee-hearing-to-explain-coverup-of-its-platforms-negative-impact-on-teens-and-children>.

20 ⁵³⁸ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at
<https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>; see also *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at
<https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower> (statement by Senator Brian Schatz to Frances Haugen that he had "a long list of misstatements, misdirections and outright lies from the company").

21 ⁵³⁹ Haugen_00007481 at Haugen_00007492 (Jan. 8, 2020 report regarding "Political Ads
 22 Announcement Preview [Confidential]").

23 ⁵⁴⁰ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at
<https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

1 emphasizes insularity and promotes the idea that “if information is shared with the public, it will
 2 just be misunderstood.”⁵⁴¹

3 383. The above representations of former employees are consistent with reports from
 4 Facebook content moderators that there is a “culture of fear and excessive secrecy” within Meta
 5 that “prevent[s] [them] from speaking out.”⁵⁴²

6 384. Notably, Meta’s pattern of concealment did not end after Frances Haugen came
 7 forward. On September 30, 2021, Antigone Davis, Facebook’s Head of Safety, testified before the
 8 Senate. Ms. Davis represented that, when Instagram “do[es] ads to young people, there are only
 9 three things that an advertiser can target around: age, gender, location. We also prohibit certain ads
 10 to young people, including weight-loss ads.”⁵⁴³ She further testified, “We don’t allow the
 11 sexualization of minors on our platform.”⁵⁴⁴

12 385. Ms. Davis’s statements were subsequently proven false by Senator Mike Lee.
 13 During an October 2021 hearing, Senator Lee explained that a group called the Technology
 14 Transparency Project (“TTP”) alerted the U.S. Senate that it had gained Facebook’s approval to
 15 target a series of harmful ads to up to 9.1 million users between the ages of 13 and 17.⁵⁴⁵ While
 16

17 ⁵⁴¹ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

18 ⁵⁴² Zoe Schiffer, *Facebook Content Moderators Call for Company to Put an End to Overly Restrictive NDAs*, The Verge (Jul. 22, 2021), available at <https://www.theverge.com/2021/7/22/22587757/facebook-content-moderators-ireland-end-restrictive-ndas>.

19 ⁵⁴³ *Subcomm.: Protecting Kids Online: Facebook, Instagram, and Mental Health Harms Hearing before Subcomm. On Consumer Protection Product Safety, and Data Security* (Sept. 30, 2021), available at <https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms>.

20 ⁵⁴⁴ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

21 ⁵⁴⁵ See *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

1 TTP did not actually run the ads, approval from Meta to do so demonstrates that the company
 2 allows harmful targeted advertising toward minors. Senator Lee showed three examples of these
 3 Meta-approved ads, shown below:^{546, 547}



14 386. The first ad encourages children to “[t]hrow a skittles party like no other” and
 15 displays the suggestion against a background of colorful prescription pills. The second ad promotes
 16 an “Ana Tip” instructing the viewer to “visit pro-anorexia sites to feed your motivation and reach your
 17 goal” when feeling hungry. The third ad informs the viewer that they “look lonely” and encourages
 18 them to “[f]ind your partner now to make a love connection.”

19 387. Senator Lee stated that based on the Meta Defendants’ approval of these pro-drug,
 20 pro-anorexia, pro-sexualization ads targeted to children aged 13 to 17, “[o]ne could argue that it

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23⁵⁴⁶ These screen captures were taken from a video of the October 5, 2021 Senate Hearing with
 24 witness Frances Haugen. *See Protecting Kids Online: Testimony from a Facebook Whistleblower*
Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security (Oct. 5,
 25 2021) available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

26⁵⁴⁷ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm.*
 27 *On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at
 28 <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

1 proves that Facebook is allowing and perhaps facilitating the targeting of harmful adult-themed ads
 2 to our nation's children.”⁵⁴⁸

3 388. In addition to the litany of misrepresentations and omissions identified above, Meta
 4 has repeatedly failed to tell the truth about the age of users on Instagram. In statements to Congress
 5 and elsewhere, Zuckerberg has represented that Meta does not allow users under the age of 13 to
 6 use the product. For example, in testimony before the U.S. House of Representatives Committee
 7 on Energy and Commerce, Zuckerberg stated: “There is clearly a large number of people under the
 8 age of 13 who would want to use a service like Instagram. We currently do not allow them to do
 9 that.”⁵⁴⁹

10 389. However, as discussed further above, Meta has long known that its product is widely
 11 used by children under the age of 13. In fact, Meta knows through retrospective cohort analyses
 12 that “up to 10 to 15% of even 10 year-olds in a given cohort may be on Facebook or Instagram.”⁵⁵⁰

13
 14

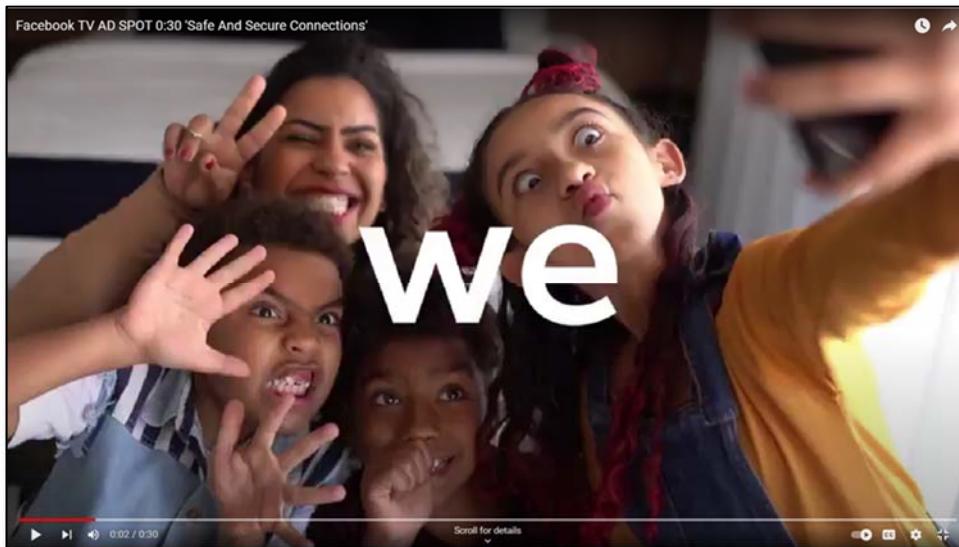
 15 ⁵⁴⁸ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm.*
 16 *On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at
<https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20facebook%20whistleblower>.

17 ⁵⁴⁹ *Disinformation Nation: Social Media’s Role in Promoting Extremism and Misinformation*
 18 *Hearing Before H. Energy and Commerce Subcomm. on Communications and Technology* 59
 19 (March 25, 2021), available at
<https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-20210325.pdf>; see also *Disinformation Nation: Social Media’s Role in Promoting Extremism and Misinformation Hearing Before H. Energy and Commerce Subcomm. on Communications and Technology* 175 (March 25, 2021), available at
<https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-20210325.pdf> (Zuckerberg: “[O]ur policies on-on the main apps that we offer generally prohibit people under the age of 13 from using the services.”); See also *Transcript of Zuckerberg’s appearance before House committee*, Washington Post (April 11, 2018),
https://www.washingtonpost.com/news/the-switch/wp/2018/04/11/transcript-of-zuckerbergs-appearance-before-house-committee/?utm_term=.c7b476fb8ac7&noredirect=on (When asked if it is correct that children can get a Facebook account starting at age 13, Zuckerberg confirmed that it was correct); see also NewSchools Venture Fund, *NewSchools Summit 2011: John Doerr and Mark Zuckerberg on innovation and education* (May 24, 2011),
<https://www.youtube.com/watch?v=n03zAOadyMA> (Zuckerberg: “[A]nd so basically, we don’t allow people under the age of 13 on Facebook . . . today we don’t allow people under the age of 13 to sign up”).

26 ⁵⁵⁰ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm.*
 27 *On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), available at
<https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20facebook%20whistleblower>.

1 Meta is also aware that teenagers coach tweens, defined by them as 10- to 12-year-olds, on how to
 2 use its products.⁵⁵¹

3 390. Indeed, far from acknowledging the serious defects in its products and warning
 4 children and parents of the same, Meta has launched advertising campaigns designed to encourage
 5 more children to use its products—by touting the purported safety of those products. For example,
 6 in a recent television ad, Meta claimed that it “build[s] technology that gives you more control and
 7 helps keep you safe” including through its “industry leading AI” and other “tools that can protect—
 8 so you can connect.” This advertisement featured children, as in the screenshot below.



18 Other advertising campaigns have similarly touted Meta’s AI as being a feature that contributes to
 19 its products’ safety—without disclosing the serious defects identified in this Complaint.

20 391. In another example of advertising that promotes use by children, a Meta 2021 online
 21 advertisement actively highlighted the content available for fifth grade children on its Facebook
 22 product, highlighting the experience of an art teacher who used Facebook to communicate with
 23 students during the pandemic—an experience the video noted was “a lot to unpack for little, tiny
 24 people.”

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 26
 27
 28 ⁵⁵¹ Haugen_00016728 at Haugen_00016736-Haugen_00016740.

1 **5. Meta facilitates the spread of CSAM and child exploitation.**

2 392. Various design features of Meta's products promote and dramatically exacerbate
 3 sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that
 4 harms children.

5 393. Meta has long known about these outcomes.⁵⁵² In 2010, the *Daily Mail* in the United
 6 Kingdom reported that a pedophile used Facebook to groom up to 1,000 children for sex. Detectives
 7 “praised the ‘brave young people’ who helped catch this predator but attacked Meta, saying “many
 8 sickening incidents could have been avoided if the social networking site had installed a ‘panic
 9 button’ which allows youngsters to alert authorities if they suspect they were being groomed.”⁵⁵³

10 394. In 2013, the *Christian Science Monitor* reported that Facebook is a “favorite
 11 recruiting ground[]” for child sex traffickers.⁵⁵⁴

12 395. In 2017, *The Times* in the U.K. reported that Facebook “failed to take down dozens
 13 of images and videos that were ‘flagged’ to its moderators, including . . . several violent paedophilic
 14 cartoons” and “a video of an apparent sexual assault on a child.”⁵⁵⁵

15 396. In 2019, the *Sunday Times*, also in the U.K., reported that “Instagram is steering
 16 paedophiles towards accounts belonging to children as young as 11, who should not be on the
 17 platform in the first place.”⁵⁵⁶

18
 19
 20 ⁵⁵² See, e.g., Michael H. Keller and Gabriel J.X. Dance, *The Internet Is Overrun With Images of*
 Child Sexual Abuse,” N.Y. Times (Sept. 29, 2019),
<https://www.nytimes.com/interactive/2019/09/28/us/child-sex-abuse.html>.

21 ⁵⁵³ Michael Seemark, *Paedophile postman used Facebook and Bebo to groom up to 1,000*
children for sex, DailyMail.com (May 28, 2010), <https://www.dailymail.co.uk/news/article-1282157/Facebook-grooming-How-pervert-postman-used-site-groom-hundreds-children.html>.

22 ⁵⁵⁴ Marjorie Kehe Staff, *Kimberly Ritter stands up to child sex trafficking in US hotels*, The
Christian Science Monitor (Mar. 15, 2013), <https://www.csmonitor.com/World/Making-a-difference/2013/0315/Kimberly-Ritter-stands-up-to-child-sex-trafficking-in-US-hotels>.

23 ⁵⁵⁵ Alexi Mostrou, *Facebook publishing child pornography*, The Times (Apr. 13, 2017),
<https://www.thetimes.co.uk/article/facebook-publishing-child-pornography-pdgt87nm6?region=global>.

24 ⁵⁵⁶ Shanti Das & Geoff White, *Instagram sends paedophiles to accounts of children as young as 11*, The Sunday Times (Dec. 1, 2019), <https://www.thetimes.co.uk/article/instagram-sends-predators-to-accounts-of-children-as-young-as-11-j2gn5hq83>. Meta was aware of this report.
 META3047MDL-003-00153063.

1 397. Despite its awareness from over a decade of red flags, Meta promotes its products
 2 as safe and family- friendly and claims that its product features are designed to remind adolescent
 3 users who they are sharing with and to limit interactions with strangers.⁵⁵⁷ This is simply not the
 4 case. Meta not only tolerates child exploitation, it knowingly assists, supports, and/or facilitates
 5 child exploitation through its defective product features.

6 398. Meta also fails to enforce its own policies regarding adolescent users and does not
 7 incorporate simple, cost-effective technologies into the design of its products that would help
 8 reduce the prevalence of CSAM. Adolescent users are harmed by Meta’s defectively designed
 9 products, which are unreasonably dangerous for them.

10 399. For example, Facebook’s “People You May Know” feature helps predators connect
 11 with underage users and puts them at risk of sexual exploitation, sextortion, and production and
 12 distribution of CSAM; 80% of “violating adult/minor connections” on Facebook were the result of
 13 this friends recommendation system.⁵⁵⁸ Instagram’s “Suggested for You” and “Because You
 14 Watched” features are similarly dangerous because they connect strangers, including adult
 15 predators, with adolescent users. As *The Sunday Times* revealed, “[p]redators who follow users
 16 posting photos of young models, dancers or gymnasts are shown a stream of other images they will
 17 like and targeted with personalised recommendations of accounts to follow. Among the suggested
 18 accounts are newly created profiles belonging to children who would otherwise be almost
 19 impossible to find unless you had their user name.”⁵⁵⁹

20 400. Similarly, the absence of effective age verification measures, as described above,
 21 allows predators to lie about their ages and masquerade as children, with obvious dangers to the
 22 actual children on Meta’s products. Prior to November 2022, the default setting for Facebook users’
 23 profiles allowed posts to be publicly viewable by any user. This allowed predators to discover and
 24 connect with adolescent users. The same is true for users’ friends lists.

25 ⁵⁵⁷ *Safety Resources for Parents*, Meta Privacy, Safety, and Security
 26 https://www.facebook.com/help/1079477105456277?helpref=faq_content.

27 ⁵⁵⁸ META3047MDL-003-00013254 at META3047MDL-003-00013255.

28 ⁵⁵⁹ Shanti Das & Geoff White, *Instagram sends paedophiles to accounts of children as young as 11*, *The Sunday Times* (Dec. 1, 2019), <https://www.thetimes.co.uk/article/instagram-sends-predators-to-accounts-of-children-as-young-as-11-j2gn5hq83>.

1 401. Instagram is similarly flawed, having transitioned to private profiles for users under
 2 16 only in July 2021. Up until that change—and even after—millions of minors are left exposed to
 3 predation and at risk of extortion and abuse by default. Indeed, *The Sunday Times* reported that
 4 “[o]ne of those brought to the surface by Instagram’s algorithm contained selfies of a young girl
 5 and a profile description that read: “Hey people hope you decide to follow me im 11.”⁵⁶⁰

6 402. Distressingly, Meta considered making teenage users’ profiles “private by default”
 7 at least as early as July 2020, but chose not to do so after pitting “safety, privacy, and policy wins”
 8 against “growth impact.”⁵⁶¹

9 403. Meta’s products also include direct messaging features. Instagram’s direct
 10 messaging system is equipped with a product feature called a “photo bomb,” which is an image or
 11 video sent from a smartphone that automatically disappears from the recipient’s inbox. Both
 12 Facebook’s and Instagram’s messaging system also have a “Vanish Mode” option, which makes
 13 the message disappear after it has been read.

14 404. Meta’s messaging features allow users to exchange private messages with other
 15 product users. In addition, users do not have to be connected as friends or followers to initiate
 16 conversations, which enables predators to communicate privately with youth, with virtually no
 17 evidence of what was exchanged. This feature enables predators to identify children who are willing
 18 to respond to a stranger’s message, and then prey on their insecurities. Even though “this is the kind
 19 of thing that pisses Apple off to the extent of threatening to remove us from the App Store,” as of
 20 mid-2020, Meta had no timeline for “when we’ll stop adults from messaging minors in IG
 21 Direct.”⁵⁶² That remained true even after Meta received reports that a 12-year-old minor solicited
 22 on its platform “was [the] daughter of [an] Apple Security Exec.”⁵⁶³

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⁵⁶⁰ Shanti Das & Geoff White, *Instagram sends paedophiles to accounts of children as young as 11*, The Sunday Times (Dec. 1, 2019), <https://www.thetimes.co.uk/article/instagram-sends-predators-to-accounts-of-children-as-young-as-11-j2gn5hq83>.

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⁵⁶¹ META3047MDL-003-00028226 at META3047MDL-003-00028226; META3047MDL-003-00013254 at META3047MDL-003-00013254.

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⁵⁶² META3047MDL-003-00028019 at META3047MDL-003-00028019.

28

⁵⁶³ META3047MDL-003-00028019 at META3047MDL-003-00028020.

1 405. An internal study conducted in or around June of 2020 concluded that 500,000
 2 underage Instagram accounts “receive IIC”—which stands for “inappropriate interactions with
 3 children”—on a *daily* basis.⁵⁶⁴ Yet, at the time, “Child Safety [was] explicitly called out as a non-
 4 goal So if we do something here, cool. But if we can do nothing at all, that’s fine, too.”⁵⁶⁵

5 406. Meta’s products also permit users to operate multiple accounts simultaneously.
 6 Operating multiple accounts enables adolescent users to have multiple unique online identities. In
 7 addition, parents are often unaware that more than one account exists and therefore do not monitor
 8 the additional accounts as they would the primary, known account. By permitting multiple
 9 accounts, Meta compounds children’s exposure to danger on its products and hampers parents’
 10 attempts to monitor their children’s activities.

11 407. Meta’s products also utilize a location feature that allows users to geotag the location
 12 where a photo was taken or from where a post is being made. On Facebook, users can search posts
 13 by location and find pages and groups by the location tagged in a user’s post. Similarly, Instagram
 14 users can use the Explore tool to search for posts based on location tags.

15 408. Location tagging is inherently dangerous for children, as it identifies where they are
 16 located, where they vacation, where they attend school, and so on. Predators can find these posts
 17 by searching within specific geographic confines. This enables the identification of potential
 18 victims in a predator’s area, increasing the risk that adolescent users are targeted for sexual
 19 exploitation, sextortion, and CSAM.

20 409. Meta’s policies fail to adequately protect children, especially teens. Meta created its
 21 own definition of CSAM that fails to sufficiently meet the clear requirements provided in 18 U.S.C.
 22 § 2256(8) and related case law. Meta relies on its own definitions to fail to report harmful CSAM
 23 to the authorities as required by law.⁵⁶⁶ For example, Meta utilizes the Tanner Stages, a

25 ⁵⁶⁴ META3047MDL-003-00028214 at META3047MDL-003-00028216- META3047MDL-003-
 00028218.

26 ⁵⁶⁵ META3047MDL-003-00028214 at META3047MDL-003-00028215.

27 ⁵⁶⁶ Michael H. Keller, *Adults or Sexually Abused Minors? Getting It Right Vexes Facebook*, N.Y.
 28 Times (Mar. 31, 2022), <https://www.nytimes.com/2022/03/31/business/meta-child-sexual-abuse.html>.

1 classification system used to track children's physical development during puberty, to assist with
 2 making moderation decisions related to potential CSAM. The scale's creator, Dr. James Tanner,
 3 has called this approach "wholly illegitimate."⁵⁶⁷

4 410. Despite using PhotoDNA and other technology in Facebook's product design as
 5 early as 2011, Meta has hindered its effectiveness and success by creating its own CSAM
 6 definitions and compromising its own detection model.

7 411. In fact, the United States Department of Justice ("DOJ") urged Zuckerberg to refrain
 8 from implementing dangerous design modifications to his products, "embed the safety of the public
 9 in system designs," and "act against illegal content effectively with no reduction to safety," in ways
 10 that safeguard victims.⁵⁶⁸

11 412. In November of 2021, Meta indicated that it would postpone certain product design
 12 changes, such as encrypting direct messages on Instagram, that would create an increased risk and
 13 volume of CSAM within its products. However, in January 2022, it implemented those changes to
 14 its Messenger application, increasing risks to vulnerable children and the volume of predators and
 15 CSAM without sufficient warning.⁵⁶⁹ In 2019, FBI Director Christopher Wray stated that, with the
 16 design decision to encrypt Messenger absent additional protections for children, Facebook would
 17 become "a dream-come-true for predators and child pornographers. A platform that allows them to
 18 find and connect with kids, and like-minded criminals, with little fear of consequences. A lawless
 19 space created not by the American people, or their elected officials, but by the owners of one big
 20 company."⁵⁷⁰

21
 22 ⁵⁶⁷ Michael H. Keller, *Adults or Sexually Abused Minors? Getting It Right Vexes Facebook*, New
 23 York Times. (March 31, 2022), <https://www.nytimes.com/2022/03/31/business/meta-child-sexual-abuse.html>.

24 ⁵⁶⁸ Letter to Mark Zuckerberg from Department of Justice 2 (October 4, 2019),
<https://www.justice.gov/opa/press-release/file/1207081/download>.

25 ⁵⁶⁹ Timothy Buck, *Express Yourself in Messenger's End-to-End Encrypted Chats*, Messenger
 26 News (Jan. 27, 2022), <https://messengernews.fb.com/2022/01/27/express-yourself-in-messengers-end-to-end-encrypted-chats/>.

27 ⁵⁷⁰ Raphael Satter & Sarah N. Lynch, *FBI Director Warns Facebook Could Become Platform Of
 28 'Child Pornographer'*, Reuters (Oct. 4, 2019), <https://www.reuters.com/article/us-facebook-security/fbi-director-warns-facebook-could-become-platform-of-child-pornographers-idUSKBN1WJ1NQ>.

1 413. Even further compounding these problems, Meta has “instructed content moderators
 2 for its platforms to ‘err on the side of an adult’ when they are uncertain about the age of a person
 3 in a photo or video, according to a corporate training document.”⁵⁷¹

4 414. Shortly after Frances Haugen disclosed how Meta’s products harm children, an
 5 unnamed whistleblower and former Facebook employee revealed in a five-page document that
 6 Meta’s efforts to address the prevalence of CSAM within its products were “inadequate” and
 7 “under-resourced.”⁵⁷² This whistleblower also stated that Meta “doesn’t track” the full scale of the
 8 CSAM problem within its products because senior executives consistently limit the funds available
 9 for child protection design efforts, by instead focusing on the company’s “return on investment.”⁵⁷³

10 415. Meta’s failure to monitor its products for CSAM and protect its most vulnerable
 11 users is all the more shocking considering the troves of data and information it collects about users
 12 to monitor their preferences and lifestyles for advertising clients. Using that same technology, Meta
 13 could easily detect, report and take actions to prevent instances of sexual grooming, sextortion, and
 14 CSAM distribution on its products.

15 416. Instead of taking these crucial, life-saving actions, Meta misleadingly asserts that
 16 when it “become[s] aware of apparent child exploitation, we report it to the National Center for
 17 Missing and Exploited Children (NCMEC), in compliance with applicable law.”⁵⁷⁴ But Meta’s
 18 response to law enforcement inquiries is often significantly delayed, if they respond at all, and Meta
 19 further frustrates law enforcement investigations by failing to promptly to report child sexual
 20 exploitation.⁵⁷⁵

21 ⁵⁷¹ Michael H. Keller, *Adults or Sexually Abused Minors? Getting It Right Vexes Facebook*, N.Y.
 22 Times (Mar. 31, 2022), <https://www.nytimes.com/2022/03/31/business/meta-child-sexual-abuse.html>.

23 ⁵⁷² Angus Crawford, *Whistleblower: Facebook’s response to child abuse ‘inadequate’*, BBC
 24 News, (Oct. 28, 2021) <https://www.bbc.com/news/technology-59063768>.

25 ⁵⁷³ Angus Crawford, *Whistleblower: Facebook’s response to child abuse ‘inadequate’*, BBC
 26 News, (Oct. 28, 2021) <https://www.bbc.com/news/technology-59063768>.

27 ⁵⁷⁴ Meta, *Meta’s Child Sexual Exploitation, Abuse and Nudity, Facebook Community Standards*,
 28 <https://transparency.fb.com/policies/community-standards/child-sexual-exploitation-abuse-nudity/>.

27 ⁵⁷⁵ See Michael H. Keller & Gabriel J. X Dance, *The Internet Is Overrun With Images Of Child Sexual Abuse. What Went Wrong?*, N.Y. Times (Sept. 29, 2019),
 28 <https://www.nytimes.com/interactive/2019/09/28/us/child-sex-abuse.html> (describing the

1 417. As a result, Meta's products are polluted with illegal material that promotes and
 2 facilitates the sexual exploitation of minors. Meta benefits from increased user activity (and
 3 increased advertising revenue) for disseminating these materials on its products.

4 418. Meta knows that its products are used for the production, possession, distribution,
 5 receipt, transportation, and dissemination of millions of materials that depict obscene visual
 6 representations of the sexual abuse of children each year. Meta also knows that its defective
 7 algorithms worsen the problem: "CEI (Child Exploitative [sic] Imagery) is . . . something people
 8 seek out, and our recommendations can make worse."⁵⁷⁶

9 419. Meta knowingly fails to take adequate and readily available measures to remove
 10 these contraband materials from its products in a timely fashion.

11 420. In violation of 18 U.S.C. § 2258A, Meta knowingly fails to report massive amounts
 12 of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

13 421. Meta knows, or reasonably should have known, that its products are increasingly
 14 unsafe for children each year, and yet fails to implement safeguards to prevent children from
 15 accessing its products.

16 422. In addition to these dangerous features that enable CSAM and child exploitation,
 17 Meta's products hamper identification and reporting of CSAM or child pornography. For example,
 18 they do not allow a person to report harmful content without first logging into and using the
 19 products, which requires them to sign up for an account and provide a name and email address.⁵⁷⁷

20 423. Neither Instagram nor Facebook contain product features that allow users to report
 21 harmful images or videos directly from their direct messaging features.⁵⁷⁸

22 proliferation of CSAM on social media apps and the way the apps have hampered law
 23 enforcement investigations).

24 ⁵⁷⁶ META3047MDL-003-00068860 at META3047MDL-003-00068861.

25 ⁵⁷⁷ Canadian Centre for Child Protection, *Reviewing Child Sexual Abuse Material Reporting
 Functions on Popular Platforms* 16,
https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf (last accessed
 December 28, 2022).

26 ⁵⁷⁸ Canadian Centre for Child Protection, *Reviewing Child Sexual Abuse Material Reporting
 Functions on Popular Platforms* 13,
https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf (last accessed
 December 28, 2022).

1 424. Upon information and belief, Meta paused or completely stopped certain proactive
 2 scanning measures related to child exploitation imagery and CSAM for some unknown period(s),
 3 including a period within the past three years.⁵⁷⁹

4 425. Meta knowingly possessed the capabilities and technologies to incorporate other
 5 automatic actions into its product designs to protect children (including but not limited to
 6 immediately disabling or deleting harmful content to minors) but Meta deliberately and willfully
 7 failed to do so. Instead, Meta allowed the sexualization and exploitation of minors on their products
 8 to brazenly continue.

9 426. Meta knowingly failed to invest in adequate CSAM prevention measures, including
 10 but not limited to client-side scanning and perceptual hashing.

11 427. Despite having the technology to limit the spread, Meta continues to fail to prevent
 12 the spread of this same CSAM on their Products.⁵⁸⁰

13 428. Meta knowingly failed to design its products to proactively detect harmful
 14 interactions between adults and minors despite having the technology and capabilities to do so
 15 successfully.⁵⁸¹

16 429. Finally, Meta's products offer unreasonably inadequate parental controls; for
 17 example, parents cannot monitor their child's account without logging into the child's account
 18 directly.

19 430. Collectively, these defects make it difficult for parents to monitor their use of Meta's
 20 products, and they enable predators to identify, connect to, and exploit children.⁵⁸²

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24 ⁵⁷⁹ META3047MDL-003-00009133 at META3047MDL-003-00009134.

25 ⁵⁸⁰ See META3047MDL-003-00012994 at META3047MDL-003-00012995- META3047MDL-
 003-00012996 (describing Meta's adoption of different CSAM prevention technologies).

26 ⁵⁸¹ Hany Farid, *Reining in Online Abuses*, 19 Technology and Innovation 593-599 (2018);
 27 META3047MDL-003-00009133 at META3047MDL-003-00009134 (describing Meta's pause of
 certain CSAM prevention work during Covid-19 and CSAM prevention procedures more
 broadly).

28 ⁵⁸² Hany Farid, *Reining in Online Abuses*, 19 Technology and Innovation 593-599 (2018),
<https://farid.berkeley.edu/downloads/publications/nai18.pdf>.

1 **6. Meta failed to adequately warn Plaintiffs or Consortium Plaintiffs**
 2 **about the dangers and harms caused by Instagram and Facebook, or**
 3 **provide instructions regarding safe use.**

4 431. Meta has failed to adequately warn adolescent users and parents about the physical
 5 and mental health risks posed by Instagram and Facebook. These risks include a plethora of mental
 6 health disorders like compulsive use, addiction, eating disorders, anxiety, depression, insomnia,
 7 exacerbated executive dysfunction, sexual exploitation from adult users, suicidal ideation, self-
 8 harm, and death.

9 432. Meta targets adolescent users via advertising and marketing materials distributed
 10 throughout digital and traditional media that fail to provide sufficient warnings to potential
 11 adolescent consumers of the physical and mental risks associated with using Facebook and
 12 Instagram.

13 433. Meta also fails to adequately warn adolescent users during the product registration
 14 process. At account setup, neither Instagram nor Facebook contain warning labels, banners, or
 15 conspicuous messaging to adequately inform adolescent users of the known product risks and
 16 potential physical and mental harms associated with usage. Instead, Meta allows adolescent users,
 17 including those under the age of 13, to easily create an account (or multiple accounts) and fully
 18 access these products.

19 434. Meta's failure to warn adolescent users continues even as adolescents exhibit
 20 problematic signs of addiction to and compulsive use of Facebook or Instagram. For example, Meta
 21 does not warn users when their screen time reaches harmful levels or when adolescents are
 22 accessing the product habitually.

23 435. Despite proactively providing adolescent users with countless filtering and editing
 24 tools, Meta also does not appropriately warn adolescent users regarding which images have been
 25 altered or the mental health harms associated with the heavily filtered images that Meta presents
 26 and recommends.

27 436. Not only does Meta fail to adequately warn users regarding the risks associated with
 28 Instagram and Facebook, it also does not provide sufficient instructions on how adolescents can
 29 safely use the products.

1 437. Meta's failure to adequately warn and instruct as set forth herein has proximately
 2 caused significant harm to the mental and physical well-being of Plaintiffs and Consortium
 3 Plaintiffs, in addition to the other injuries and harms as set forth herein.

4 **C. FACTUAL ALLEGATIONS AS TO SNAP**

5 438. Snap Inc. calls itself "a camera company."⁵⁸³ Its "flagship product, Snapchat, is a
 6 camera application that was created to help people communicate through short videos and images.
 7 [Snap] calls each of those short videos or images a Snap."⁵⁸⁴ Snap's design of its Snapchat product
 8 capitalizes on children's increasing attachment to quick, instantaneous exchanges. As Snap's
 9 founder and CEO Evan Spiegel has explained, "today... pictures are being used for talking. So
 10 when you see your children taking a zillion photos of things that you would never take a picture of,
 11 it's cos [sic] they're using photographs to talk. And that's why people are taking and sending so
 12 many pictures on Snapchat every day."⁵⁸⁵

13 439. Spiegel's statement is telling, as Snap has tailored every aspect of its Snapchat
 14 product to children rather than adults. Snap designed and implemented dangerous features in
 15 Snapchat that exploit children's need for social acceptance and rewards by pushing its users to
 16 maximize their use of and engagement with the app. Snap built Snapchat using manipulative
 17 techniques to compel young users to send an ever-increasing number of photographs and videos,
 18 and to reward users who maximize their engagement with elevated status. Snap also dangerously
 19 encourages adolescents to increase engagement on the app indiscriminately, pushing tools to share
 20 sensitive material with an ever-expanding group of friends and strangers.

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 23 ⁵⁸³ Snap Inc. Form S-1 Registration Statement (*hereafter "Form S-1"*) at 1 (Feb. 2, 2017),
<https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>; *See also*, *Snap – Who We Are*, Snap Inc.; ("We believe that reinventing the camera represents our greatest opportunity to improve the way people live and communicate.").<https://careers.snap.com/en-US> ("We believe that reinventing the camera represents our greatest opportunity to improve the way people live and communicate.").

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 26 ⁵⁸⁴ Snap Inc. Form S-1 Registration Statement (*hereafter "Form S-1"*) at 1 (Feb. 2, 2017),
<https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>.

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 28 ⁵⁸⁵ Stuart Dredge, *What is Snapchat? CEO Evan Spiegel explains it all for parents*, The Guardian, June 15, 2015, <https://www.theguardian.com/technology/2015/jun/17/what-is-snapchat-evan-spiegel-parents>.

1 440. Snapchat's design features cause its young users to suffer increased anxiety,
 2 depression, disordered eating, sleep deprivation, suicide, and other severe mental and physical
 3 injuries. Snap knows or should have known this. Snap intentionally designed Snapchat to prey on
 4 the neuropsychology and behavioral patterns of children to maximize their engagement and
 5 increase Snap's advertising revenue. Despite this knowledge, Snap continues to update its product
 6 and add features intentionally designed to entice, exploit, and addict kids, including Snap Streaks,
 7 trophies, social signifiers and reward systems, quickly disappearing messages, filters, lenses, and
 8 games.

9 441. Snap knew, or should have known, that its conduct has negatively affected youth.
 10 Snap's conduct has been the subject of inquiries by the United States Senate regarding Snapchat's
 11 use "to promote bullying, worsen eating disorders, and help teenagers buy dangerous drugs or
 12 engage in reckless behavior."⁵⁸⁶ Further, Senators from across the ideological spectrum have
 13 introduced bills that would ban many of Snapchat's features that are particularly addictive to
 14 adolescents.⁵⁸⁷

15 442. Despite these calls for oversight from Congress, Snap has failed to curtail its use of
 16 features such as streaks, badges, and other awards that reward users' level of engagement with
 17 Snapchat. As described in detail below, Snapchat is a product that causes harm to children, the
 18 target audience for whom Snap designed and to whom it promoted its product.

19 **1. Background and overview of Snapchat.**

20 443. Snapchat was created by three college students in 2011 and first released for iPhones
 21 in September 2011. Snapchat quickly evolved from its origin as a disappearing-message chat
 22 application after Snap's leadership made design changes and rapidly developed new product
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24 ⁵⁸⁶ Bobby Allyn, *4 Takeaways from the Senate child safety hearing with YouTube, Snapchat and*
 25 *TikTok*, National Public Radio (Oct. 26, 2021),
<https://www.npr.org/2021/10/26/1049267501/snapchat-tiktok-youtube-congress-child-safety-hearing>.

26 ⁵⁸⁷ See Abigail Clukey, *Lawmaker Aims To Curb Social Media Addiction With New Bill*, National
 27 Public Radio (Aug. 3, 2019), <https://www.npr.org/2019/08/03/747086462/lawmaker-aims-to-curb-social-media-addiction-with-new-bill>; Social Media Addiction Reduction Technology Act,
 28 S. 2314, 116th Cong. (2019); Kids Internet Design and Safety Act, S. 2918, 117th Cong. (2021).

1 features. As a result of its design and implementation of dangerous and addictive features
 2 specifically targeting youths (described below), Snapchat quickly became widely used among
 3 children.

4 444. Snap marketed Snapchat as “temporary social media” that would allow users to
 5 show a more authentic, unpolished, and spontaneous side of themselves.⁵⁸⁸ Snapchat’s central and
 6 defining feature, the “Snap,” allows users to send and receive ephemeral, or “disappearing,”
 7 audiovisual messages. That feature foreseeably and quickly drove users to exchange sexually
 8 explicit “Snaps,” sometimes called “sexts” even though they are photos. Because of its brand
 9 identity among millennials as the original ephemeral-messaging app, Snapchat almost immediately
 10 became known as the “sexting” app—a fact that Snap was or should have been on notice of from
 11 public sources.⁵⁸⁹

12 445. Snapchat creates images and GIFs for users to incorporate into their videos and
 13 picture postings. Snap has also acquired publishing rights to thousands of hours of music and video
 14 which it provides to Snapchat users to attach to the videos and pictures that they send.

15 **2. Snap targets children.**

16 a. **Snap has designed its Snapchat product to grow use by children**
 17 **to drive the company’s revenue.**

18 446. Within five months of launching, Snapchat had 40,000 users.⁵⁹⁰ By May 2012, less
 19 than eight months after launching, CEO Evan Spiegel reported that the company was “thrilled” to
 20 learn that most of Snapchat’s users were high school students sending “behind-the-back photos of

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23 ⁵⁸⁸ Jenna Wortham, *A Growing App Lets You See It, Then You Don’t*, New York Times (Feb. 9,
 24 2013), https://www.nytimes.com/2013/02/09/technology/snapchat-a-growing-app-lets-you-see-it-then-you-dont.html?_r=0.

25 ⁵⁸⁹ Megan Dickey, *Let’s Be Real: Snapchat Is Totally Used For Sexting*, Bus. Insider (Nov. 30,
 26 2012), <https://www.businessinsider.com/snapchat-growth-sexting-2012-11>; Billy Gallagher, *No, Snapchat Isn’t About Sexting, Says Co-Founder Evan Spiegel*, TechCrunch (May 12, 2012),
 27 <https://techcrunch.com/2012/05/12/snapchat-not-sexting/b> (describing an interview in which a
 journalist asked the CEO of Snap about the product’s potential use for sexting).

28 ⁵⁹⁰ Ken Auletta, *Get Rich U*, New Yorker (Apr. 30, 2012),
<https://www.newyorker.com/magazine/2012/04/30/get-rich-u>.

1 teachers and funny faces” to each other during class. According to Spiegel, Snap’s server data
 2 showed peaks of activity during the school day.⁵⁹¹

3 447. Snap immediately focused on increasing the product’s frequency of use.⁵⁹² By late
 4 2012, Snapchat had over a million active users sending over 20 million Snaps per day.⁵⁹³ By 2013,
 5 Snapchat users were sending over 60 million Snaps per day.⁵⁹⁴ By the end of 2022, this number has
 6 risen to over 5 billion Snaps per day.⁵⁹⁵

7 448. As Snap continued to quickly add new features to its product, the number of
 8 Snapchat’s daily active users (users who open Snapchat at least once during a 24-hour period)
 9 rapidly increased.⁵⁹⁶ In 2017, Snap reported that its users opened the product more than 18 times a
 10 day on average. By 2019, users were opening the product an average of 30 times per day.

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20 ⁵⁹¹ Team Snapchat, *Let’s Chat*, Snapchat Blog at <http://blog.snapchat.com> (May 9, 2012),
 21 available at <https://web.archive.org/web/20120518003029/http://blog.snapchat.com:80/>.

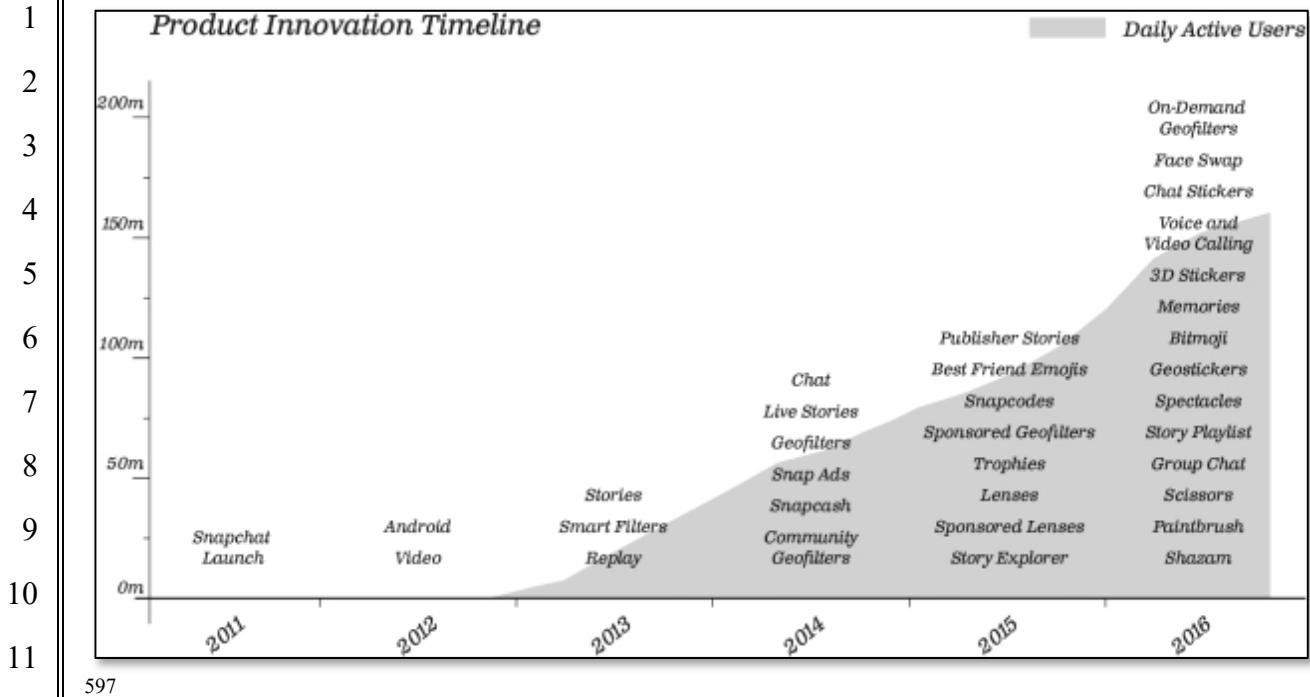
22 ⁵⁹² Billy Gallagher, *You Know What’s Cool? A Billion Snapchats: App Sees Over 20 Million Photos Shared Per Day, Releases On Android*, TechCrunch (Oct. 29, 2012),
<https://techcrunch.com/2012/10/29/billion-snapchats/>.

23 ⁵⁹³ Billy Gallagher, *You Know What’s Cool? A Billion Snapchats: App Sees Over 20 Million Photos Shared Per Day, Releases On Android*, TechCrunch (Oct. 29, 2012),
<https://techcrunch.com/2012/10/29/billion-snapchats/>.

24 ⁵⁹⁴ Billy Gallagher, *Snapchat Raises \$13.5M Series A Led By Benchmark, Now Sees 60M Snaps Sent Per Day*, TechCrunch (Feb. 9, 2013), <https://techcrunch.com/2013/02/08/snapchat-raises-13-5m-series-a-led-by-benchmark-now-sees-60m-snaps-sent-per-day/>.

25 ⁵⁹⁵ Snap Inc. Q4 2022 Investors Meeting Transcript at p. 7 (Jan. 31, 2023),
<https://s25.q4cdn.com/442043304/files/transcript/snap-inc.-q4-2022-transcript.pdf>.

26 ⁵⁹⁶ Snap Inc. Form S-1 Registration Statement (*hereafter “Form S-1”*) at 91 (Feb. 2, 2017),
<https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>.



597 449. Today, Snapchat is one of the world's most widely used apps. By its own estimates, Snapchat has 363 million daily users, including 100 million daily users in North America.⁵⁹⁸ Snapchat also "reaches 90% of the 13-24 year old population" in over twenty countries, and reaches nearly half of all smartphone users in the United States.⁵⁹⁹

450. Snapchat's explosive growth is driven by its key user demographic, 13-17 year olds. In 2022, 59% of US teens used Snapchat and 15% said they used it "almost constantly."⁶⁰⁰ Snapchat proudly touts its influence over what it calls the "Snapchat Generation" ("Gen Z").⁶⁰¹

23 ⁵⁹⁷ Snap Inc. Form S-1 Registration Statement (*hereafter* "Form S-1") at 91 (Feb. 2, 2017),
24 <https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>.

25 ⁵⁹⁸ October 2022 Investor Presentation at 5, Snap Inc. (Oct. 20, 2022),
<https://investor.snap.com/events-and-presentations/presentations/default.aspx>.

26 ⁵⁹⁹ October 2022 Investor Presentation at 6-7, Snap Inc. (Oct. 20, 2022),
<https://investor.snap.com/events-and-presentations/presentations/default.aspx>.

27 ⁶⁰⁰ Pew Research Center, Teens, Social Media and Technology 2022 (Aug. 10, 2022),
<https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

28 ⁶⁰¹ SNAP0000137 at 0139.

1 451. In 2014, Snap began running advertisements on Snapchat.⁶⁰² Snapchat's entire
 2 business model revolves around its advertising revenue. According to internal company records,
 3 advertisements were pervasive on Snapchat by 2015 and, by 2018, 99% of Snap's total revenue
 4 came from advertising. Advertising has accounted for 99% of Snap's revenue each year since
 5 2018.⁶⁰³ In 2022, Snap's revenue was approximately \$4.6 billion.⁶⁰⁴

6 452. Snap attracts advertisers by providing them access to the huge universe of Snapchat
 7 users and by collecting immense amounts of data on its users, including its pre-teen and teenage
 8 users, which it uses to target advertising to those users. Snap makes no secret of this practice,
 9 recently acknowledging that it relies "heavily on our ability to collect and disclose data, and metrics
 10 to our advertisers so we can attract new advertisers and retain existing advertisers. Any restriction
 11 or inability, whether by law, regulation, policy, or other reason, to collect and disclose data and
 12 metrics which our advertisers find useful would impede our ability to attract and retain
 13 advertisers."⁶⁰⁵

14 453. Snap's growth in advertising revenues was driven by changes Snap made to
 15 Snapchat that incentivized compulsive and addictive use at the expense of its users' health. Snap's
 16 internal research indicates the Snapchat experience is "more immersive" than its competitors' apps.
 17 This means users are more likely than on other apps to keep watching videos (and advertising).⁶⁰⁶
 18 Other research shows that Snapchat's daily active users are constantly using its product; compared
 19 to other apps, users are most likely to use Snapchat "right when I wake up," "before work/school,"
 20 "during work/school," "after work/school," "on vacations," and "when I'm with others[.]"⁶⁰⁷

22
 23 ⁶⁰² Angela Moscaritolo, *Snapchat Adds 'Geofilters' in LA, New York*, PC Mag. (July 15, 2014),
<https://www.pcmag.com/news/snapchat-adds-geofilters-in-la-new-york>.

24 ⁶⁰³ Snap Inc. Form 10-K at 18 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

25 ⁶⁰⁴ Snap Inc. Form 10-K at 18 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

26 ⁶⁰⁵ Snap Inc. Form 10-K at 18 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

27 ⁶⁰⁶ SNAP0000103 at 0120.

28 ⁶⁰⁷ SNAP0000103 at 0113.

1 454. Snap understands that its user experience must be immersive and all-encompassing
 2 in order to maximize its advertising revenue. Indeed, Snap recently admitted to its investors that its
 3 revenue could be harmed by, among other things, “a decrease in the amount of time spent on
 4 Snapchat, a decrease in the amount of content that our users share, or decreases in usage of our
 5 Camera, Visual Messaging, Map, Stories, and Spotlight platforms.”⁶⁰⁸

6 **b. Snap promotes Snapchat to children.**

7 455. Snap specifically promotes Snapchat to children because they are a key
 8 demographic for Snap’s advertising business.

9 456. In its first post on its website, Snapchat observed that “[t]o get a better sense of how
 10 people were using Snapchat and what we could do to make it better, we reached out to some of our
 11 users. ***We were thrilled to hear that most of them were high school students*** who were using
 12 Snapchat as a new way to pass notes in class—behind-the-back photos of teachers and funny faces
 13 were sent back and forth throughout the day.”⁶⁰⁹

14 457. As shown in this capture of a Snapchat feature page created by Snap, Snap uses
 15 bright colors, cartoonish designs, and other features that appeal to younger audiences.

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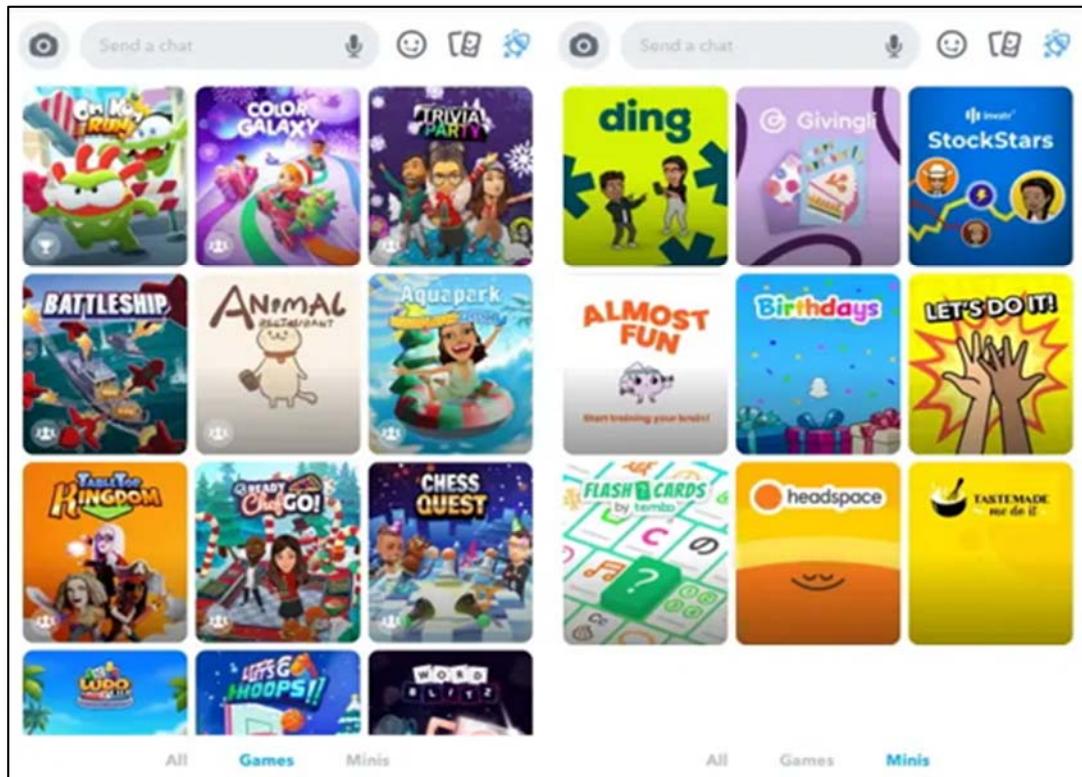
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27 ⁶⁰⁸ Snap Inc. Form 10-K at 19 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

28 ⁶⁰⁹ Team Snapchat, *Let’s Chat*, Snapchat Blog at <http://blog.snapchat.com> (May 9, 2012), <https://web.archive.org/web/20120518003029/http://blog.snapchat.com:80/>.



458. Similarly, in an October 2019 interview, Snap's CEO explained that "we've seen a lot of engagement with our 13-34 demographic, which for us is strategically a critical demographic, not only because that's a demographic that enjoys using new products but also because I think they represent, really, the future . . . So that's obviously been a group that's been really fun to build for, and really it started because those are our friends."⁶¹⁰

459. Snap touts to advertisers its ability to use Snapchat to reach children. In a December 2022 statement to advertisers, Snap claimed that "Snapchat delivers on the emotions that Gen Z seeks and it does so consistently across the platform in areas like Discover, Stories and the Camera."⁶¹¹ To prove that, Snapchat "used a neuroscience measurement called Immersion to measure reactions to different brand messaging—specifically brand purpose messaging vs. non-brand purpose messaging. Immersion captures attention and emotional resonance through

⁶¹⁰ Evan Spiegel, Co-Founder and CEO of Snap, Inc., Goldman Sachs, at 4:43-6:23. (Oct. 2, 2019), <https://www.youtube.com/watch?v=PQiKv-GCQ-w>.

⁶¹¹ Snap for Business, *What Does Gen Z Want From Brands?* Dec. 15, 2022), <https://forbusiness.snapchat.com/en-US/blog/what-does-gen-z-want>.

1 variations in heart rate rhythm collected by smartwatches.”⁶¹² Per Snapchat, “[a]ny brand or
 2 marketer can get on any app and ***start targeting Gen Z [emphasis added]***. After all, Gen Z is
 3 digitally native. But to effectively connect and engage with this generation, that takes a different,
 4 more intentional type of platform- Snapchat.”⁶¹³

5 460. Advertisers have responded, pouring into Snapchat money clearly intended for
 6 advertising aimed at children. Brands like candy manufacturer Sour Patch Kids, children’s toy store
 7 ToysRUs, and sugary beverage seller Kool-Aid have all run successful advertising campaigns
 8 through Snapchat, frequently using augmented reality tools developed in collaboration with
 9 Snapchat.



26 ⁶¹² Snap for Business, *What Does Gen Z Want From Brands?* Dec. 15, 2022),
<https://forbusiness.snapchat.com/en-US/blog/what-does-gen-z-want>

27 ⁶¹³ Snap for Business, *What Does Gen Z Want From Brands?* Dec. 15, 2022),
<https://forbusiness.snapchat.com/en-US/blog/what-does-gen-z-want>.

1 461. Snapchat's age verification systems are defective. For the first two years of its
 2 existence, Snap did not even purport to limit user access to those 13 or older.⁶¹⁴ Users were not
 3 required to input a date of birth when creating an account.⁶¹⁵

4 462. In 2013, Snap belatedly introduced age limits (which, as explained below, it does
 5 not effectively enforce). At the same time, Snap launched a new feature called "Snapkidz" aimed
 6 at and designed to attract younger children users, while hedging against the potential user loss due
 7 to the new age limits. The Snapkidz feature allowed children under the age of 13 to take filtered
 8 photos, draw on them, save them locally on their devices, send them to others, and upload them to
 9 other apps.⁶¹⁶ Although this version prevented children from sharing "Snaps" on the product, it
 10 nonetheless exposed children to Snapchat's features, which normalized and acclimatized children
 11 to using Snapchat. In addition, nothing prevented children from creating an unrestricted account
 12 with a false date of birth on Snapchat and using the product outside the SnapKidz's limited
 13 features.⁶¹⁷

14 463. The SnapKidz feature was discontinued in or around 2016. Snap now purports to
 15 prohibit users under the age of 13. But nothing prohibits the minor user from simply altering their
 16 birthdate during the same session where they were just denied an account for being an underage
 17 user. Snap could have implemented robust, effective age verification protocols. Instead, it has set
 18 up its business and product so that nothing is done to verify the age of its users or to enforce its age
 19 limitations. Snap could, but intentionally does not, verify the phone number, email address, or
 20
 21

22 ⁶¹⁴ Team Snapchat, *iOS Update: Bug Fixes and More!*, Snapchat Blog (June 22, 2013),
<https://web.archive.org/web/20130627073951/http://blog.snapchat.com:80/>.

23 ⁶¹⁵ Team Snapchat, *iOS Update: Bug Fixes and More!*, Snapchat Blog (June 22, 2013),
<https://web.archive.org/web/20130627073951/http://blog.snapchat.com:80/>.

24 ⁶¹⁶ Team Snapchat, *iOS Update: Bug Fixes and More!*, Snapchat Blog (June 22, 2013),
<https://web.archive.org/web/20130627073951/http://blog.snapchat.com:80/>.

25 ⁶¹⁷ See Larry Magid, *Snapchat Creates SnapKidz – A Sandbox for Kids Under 13*, Forbes (June
 26 23, 2013), <https://www.forbes.com/sites/larrymagid/2013/06/23/snapchat-creates-snapkidz-a-sandbox-for-kids-under-13/?sh=7c682a555e5a>; Anthony Cuthbertson, *Snapchat admits its age verification system does not work*, Independent (Mar. 19, 2019),
<https://www.independent.co.uk/tech/snapchat-age-verification-not-work-underage-ageid-a8829751.html>.

1 birthdate used to create accounts, and it allows users to create multiple accounts using the same
 2 email address or phone number.

3 464. Snap's executives have admitted that Snapchat's age verification "is effectively
 4 useless in stopping underage users from signing up to the Snapchat app."⁶¹⁸ Not surprisingly,
 5 underage use is widespread. As of 2021, 13% of children ages 8-12 use Snapchat.⁶¹⁹

6 465. Once Snapchat is installed on a user's mobile phone, the product continues to
 7 download and install updates, design changes, and new features from Snapchat directly to its users.

8 466. Similarly, the absence of effective age-verification measures means that users who
 9 are older can claim to be children—which is an obvious danger to the actual children on Snap's
 10 product.

11 3. **Snapchat is designed to addict children through psychological**
 12 **manipulation.**

13 467. Once Snap entices children to use its product, it uses a series of product features that
 14 are designed to addict children. As laid out below, those features can be broadly grouped into two
 15 categories that exploit techniques discussed earlier in this Complaint. The first are social metrics
 16 and other similar psychological manipulation techniques. The second are features designed to
 17 encourage endless passive consumption of content on the Snapchat product. These features, in
 18 tandem with each other and the other harmful features described throughout this section and
 19 Complaint, induce addiction, compulsive use, and other severe mental and physical harm to the
 20 child users of the Snapchat product, including Plaintiffs.

21 a. **Snap designed Snapchat to drive compulsive use through a set**
 22 **of social metrics and other manipulation techniques that induce**
compulsive use.

23 468. Snapchat includes a variety of social metrics—such as Snapscores, Snap Streaks,
 24 and Snap Awards—that reward users when they engage with Snapchat and punish them when they

26 ⁶¹⁸ Isobel Asher Hamilton, *Snapchat admits its age verification safeguards are effectively useless*,
 Bus. Insider (Mar. 19, 2019), <https://www.businessinsider.com/snapchat-says-its-age-verification-safeguards-are-effectively-useless-2019-3>.

27 ⁶¹⁹ Victoria Rideout *et al.*, *Common Sense Census: Media use by tweens and teens*, 2021 at 5,
 28 Common Sense Media, https://www.commonSenseMedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

fail to engage with Snapchat. Internal research by Snap has found these psychological manipulation techniques are highly effective at instilling anxiety about not using Snapchat frequently enough—and competitor research has confirmed these features are addictive. In tandem with Intermittent and Variable Rewards (“IVR”), like push notifications and design choices that make it difficult to stop using the Snapchat product, these induce compulsive use of the product by children.

6 469. These manipulation techniques are so effective in part because Snapchat's
7 disappearing messages themselves create a compulsion to engage with the Snapchat product.
8 Because Snaps typically disappear within ten seconds of being viewed, users feel compelled to
9 reply immediately. Snap activates the psychological desire to reciprocate the social gesture of
10 sending a Snap.⁶²⁰ Snapchat also tells users each time they receive a Snap by pushing a notification
11 to the recipient's device. These notifications are designed to prompt users to open Snapchat
12 repetitively, increasing the overall time spent on the app.

(i) Snapscores

14 470. Snapscores were one of the earliest features of the Snapchat product. Almost as soon
15 as Snapchat launched, Snap gave users the ability to draw and color on Snaps and add a short text
16 caption before sending. An Android version of the app, video sharing, and user profiles with
17 “Snapscores” soon followed.⁶²¹

18 471. Originally called “Hiscore,” Snapscore keeps a running profile score based on a
19 user’s Snapchat activity levels, such as the number of Snaps sent and received or Stories posted.⁶²²
20 The sole purpose of Snapscore is to increase product use and drive revenue.⁶²³

²³ 620 Nir Eyal, *The Secret Psychology of Snapchat*, Nir & Far (Apr. 14, 2015), <https://www.nirandfar.com/psychology-of-snapchat/>.

²⁴ ⁶²¹ Snap Inc. Form S-1 Registration Statement (*hereafter “Form S-1”*) at 91 (Feb. 2, 2017),
<https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>; Katie
Notopoulos, *The Snapchat Feature That Will You’re your Life*, BuzzFeed News (Dec. 5 2012). □
²⁵

²⁶ Notebooks, The Snapchat Feature That Will Turn Your Life, Buzzfeed News (Dec. 5, 2012), [https://www.buzzfeed.com/nicolewerner/the-snapchat-feature-that-will-turn-your-life](#).
²⁷ 622 Snachat Support, What is a Snap Score?, (“Your Snapchat score is determined by a super-secret, special equation... 🤫”) <https://support.snapchat.com/en-US/a/my-score> (“Your Snapchat score is determined by a super-secret, special equation... 🤫”).

²⁷ 623 Brad Barbz, *2020 NEW * *How To Increase Snapscore By Up To 1000 Per Minute On IOS And Android - Working 2020*, YouTube (Dec. 4, 2019),
²⁸ https://www.youtube.com/watch?v=Mq_taiuoflA



472. Although Snap does not disclose precisely how Snapscores work, sending and receiving a Snap increases the score by one point. Interacting with other product features provides additional points. A user's Snapscore is visible on their profile, serves as a signifier of the user's "worth," and encourages users to further engage with Snapchat's features to increase their score. Snapscores are important to users, especially young users, because they operate as a form of social validation, similar to an Instagram "Like." Google has reported millions of searches for "How to improve Snap score." YouTube contains numerous videos with titles like "How to Increase Snapchat Score Fast."⁶²⁴

473. Snapscores reward users who post videos that are viewed extensively. This encourages many to use Snapchat in harmful and dangerous ways, to increase the virality of their videos and increase their Snapscore. As more users engage with and forward that video to others, its creator is awarded with an increased Snapscore. Snapchat's rewards incentivize this dangerous behavior, resulting too often in physical harm or humiliation in the obsessive pursuit of social significance.

⁶²⁴ FozTech, *How to Increase Snapchat Score Fast! (100% Works in 2023)*, YouTube (Oct. 1, 2019), <https://www.youtube.com/watch?v=m7s0hvQdTok> (*How to Increase Snapchat Score Fast* has 4.2 million views as of January 10, 2023).

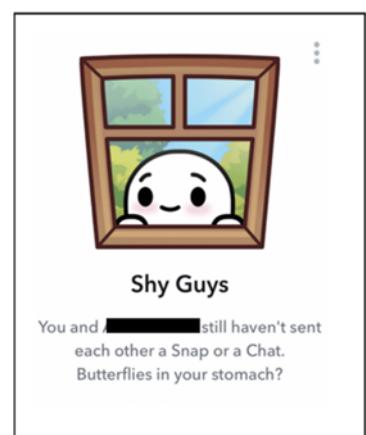
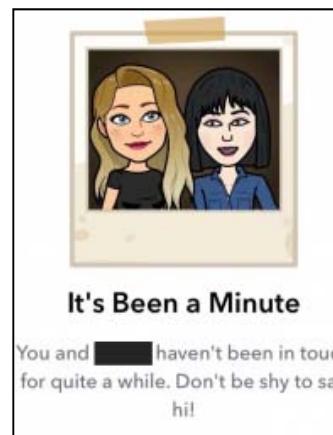
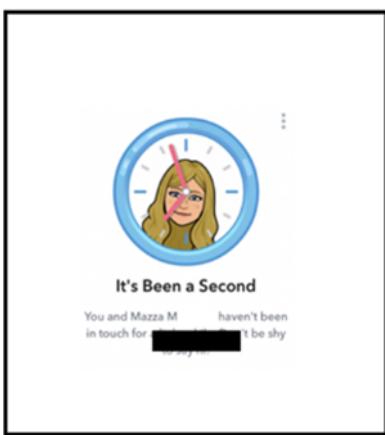
(ii) Trophies, Charms, and Stickers

474. Snap has also designed Snapchat to include user rewards, including trophies and other social recognition signals, similar to “Likes” on other apps. These features are highly addictive and drive compulsive use.

475. “Trophies” are emojis awarded for achieving engagement milestones or performing certain activities, such as increasing one’s Sapscore, sending creative Snaps, or posting a live story. A user’s “Trophies” are displayed in a “trophy box” viewable by their friends. Snap designed this feature to encourage users to share their videos and posts with the public, promote greater use of Snapchat, and deepen young users’ addiction to and compulsive use of the product.

476. In 2020, Snap phased out Trophies and replaced them with “Charms.” Unlike Trophies, where users were rewarded for unlocking individual accomplishments like sending 1,000 selfies, Charms reward users for achieving certain milestones in their relationship with other users. Typically, the more users interact with one another, the more Charms they unlock in their relationship. Charms are private and viewable only by users’ mutual contacts.

477. For example, if two users are at the top of each other's friends list, meaning they exchange frequent Snaps, they may unlock a "BFF (Best Friends Forever)" Charm. Conversely, the "It's Been Forever" and "It's Been a Minute" Charms may be awarded to friends who are infrequently in contact, to prompt their engagement with one another on Snapchat. Although there are a number of different Charms awarded for various reasons, all of them encourage user interaction, furthering engagement and buy-in to Snap's reward system. This in turn exacerbates social-comparison harms and undermines self-esteem.



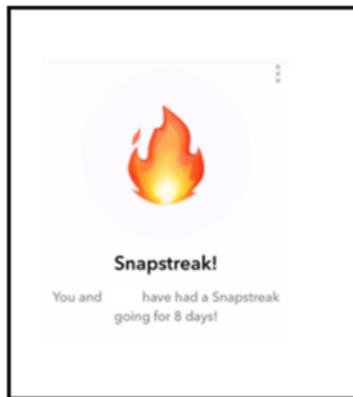
1 478. Snap incorporates other product features that, like Charms and Trophies, serve no
2 functional purpose, but make Snapchat more appealing and lead to excessive use by children and
3 teens. For example, Snap has developed images called “Stickers” for users to decorate the pictures
4 or videos they post. Snap also offers app-specific emojis and animations that users can apply to
5 their photos or videos.

6 479. Snap designed each of these features to function as rewards for increased
7 engagement, exploit underage users' desire for social validation, and ultimately compel them to use
8 Snapchat excessively. Because many of these rewards and scores are visible to others, these features
9 tap into adolescents' deep-seated need for acceptance. By exploiting this need, Snap increases time
10 spent engaging with its product and thereby its profits.

(iii) Snap Streak

12 480. The “Snap Streak” is unique to Snapchat and is an addictive feature “especially to
13 teenagers.”⁶²⁵ A Snap Streak is designed to measure a user’s Snapchat activity with another user.
14 Two users achieve a Snap Streak when they exchange at least one Snap in three consecutive 24-
15 hour periods. When the Streak is achieved, users receive a fire emoji next to their profile avatar.
16 Over time, users may be rewarded with additional emojis signifying their Streak. If users reach a
17 Streak of 100 days, for example, each receives a 100 emoji.

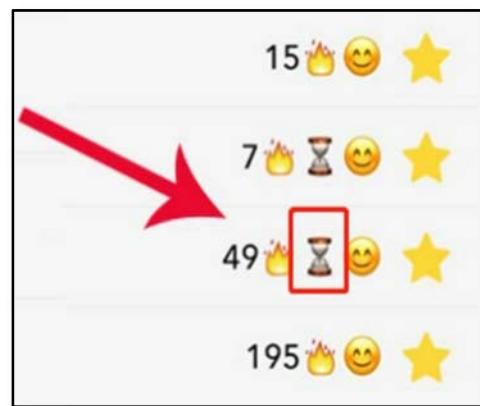
²⁴ ²⁵ ²⁶ ²⁷ ²⁸ ⁶²⁵ See Cathy Becker, *Experts warn parents how Snapchat can hook in teens with streaks*, ABC News (July 27, 2017), <https://abcnews.go.com/Lifestyle/experts-warn-parents-snapchat-hook-teens-streaks/story?id=48778296>; Avery Hartmans, *These are the sneaky ways apps like Instagram, Facebook, Tinder lure you in and get you ‘addicted’*, Bus. Insider (Feb. 17 2018), <https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13>; see generally Virginia Smart & Tyana Grundig, ‘*We’re designing minds*’: Industry insider reveals secrets of addictive app trade, CBC (Nov. 3, 2017), <https://www.cbc.ca/news/science/marketplace-phones-1.4384876>; Julian Morgans, *The Secret Ways Social Media is Built for Addiction*, Vice (May 17, 2017), <https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.



481. Snap Streak emojis are similar to Charms in that they reward users for interaction and are viewable only by mutual friends.

482. It is a matter of common knowledge in the social media industry that the Snap Streak product feature is designed to be addictive. Meta bluntly acknowledged as much in its internal documents, stating: “Streaks are a very important way for teens to stay connected. They are usually with your closest friends and they are addictive.”⁶²⁶ Nonetheless, Snap continues to provide this feature to its adolescent users.

483. Worse still, to manufacture deeper addiction to its product, Snap sends notifications to users with an hourglass emoji when Streaks are about to expire—to create extra urgency, nudge users to keep their Streaks alive, and maintain a system where a user must “check constantly or risk missing out.”⁶²⁷



⁶²⁶ Haugen_00008303 at 8307.

⁶²⁷ Lizette Chapman, *Inside the Mind of a Snapchat Streaker*, Bloomberg (Jan. 30, 2017), <https://www.bloomberg.com/news/features/2017-01-30/inside-the-mind-of-a-snapchat-streaker>.

1 484. This feature is particularly effective with teenage users since Streaks are “a vital part
 2 of using the app and their social lives as a whole.”⁶²⁸ Some children become so obsessed with
 3 maintaining their Streaks that they give their friends access to their accounts when they may be
 4 away from their phone for a day or more.⁶²⁹ Aware of how important maintaining a Snap Streak is
 5 to its users, Snap has even launched a special form on its support website allowing users who lost
 6 their streak to petition to get it back.⁶³⁰

7 485. Snap Streaks contribute to feelings of social pressure and anxiety when users lose
 8 or break a Streak. Researchers have found that losing a Streak can cause feelings of betrayal for
 9 some users, especially girls, who reported “negative” feelings when losing a Streak with one of
 10 their friends.⁶³¹

11 486. In 2018, Snap conducted its own internal research on Snap Streaks, which found
 12 that over a third of users reported it was “extremely” or “very important” to keep a Streak going,
 13 and some users reported that the stress level to keep a Streak was “intolerable” or “large.” Snap’s
 14 users reported that Streaks are equally important to Likes on Instagram.⁶³²

15 487. As this research demonstrates, Streaks are important to users. However, these design
 16 features do not enhance the communication function of the product. Instead, they exploit users’
 17 susceptibility to social pressure and to the compulsive accumulation of other rewards, including
 18 Snap Score points and Charms.

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21 ⁶²⁸ Avery Hartmans, *These are the sneaky ways apps like Instagram, Facebook, Tinder lure you*
 22 *in and get you ‘addicted’*, Bus. Insider (Feb. 17, 2018), <https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13>.

23 ⁶²⁹ Caroline Knorr, *How to resist technology addiction*, CNN (Nov. 9, 2017),
 24 <https://www.cnn.com/2017/11/09/health/science-of-tech-obsession-partner/index.html>; Jon
 25 Brooks, *7 Specific Tactics Social Media Companies Use to Keep You Hooked*, KQED (June 9,
 2017), <https://www.kqed.org/futureofyou/397018/7-specific-ways-social-media-companies-have-you-hooked>.

26 ⁶³⁰ Snapchat Support, Contact Form, <https://support.snapchat.com/en-US/i-need-help?start=5695496404336640>.

27 ⁶³¹ Hristoya et al., “*Why did we lose our snapchat streak?*” Social media gamification and
 28 metacommunication. *Computers in Human Behavior Reports*, 5, 100172 (2022).

⁶³² SNAP0000008.

(iv) Push Notifications

488. In addition to Snapchat's in-app reward features, Snap also sends push notifications and emails to encourage addictive engagement and increase use. Notifications are triggered based on information Snap collects from, and about, its users. Snap "pushes" these communications to users excessively and at disruptive times of day. Snap has even designed the format of these notifications to pull users back onto its app by preying on their fear of missing out—never mind the consequences to their health and well-being.

(v) Impediments to Discontinuing Use

489. Snap has intentionally and defectively designed its products so child users face significant navigational obstacles and hurdles when trying to delete or deactivate their Snapchat accounts, despite the ease with which a user can create one. For example, when a user elects to delete their account, they cannot do so on demand. The data and the account are preserved for 30 days. In addition, after initiating the deletion process, the user is presented with a black screen depicting a crying emoji and a message that reads, “Your account will be deactivated, which means friends won’t be able to contact you on Snapchat. You’ll also lose any Chats you’ve saved and Snaps and Chats you haven’t opened.”⁶³³

490. This cumbersome process prioritizes user retention and continued use over the well-being of Snapchat's users.

b. **Snap's defective features are designed to promote compulsive and excessive use.**

(i) “Stories” and the “Discover” Interface

491. In October 2013, Snap added “Stories,” a feature that generates a compilation of its users’ designated photos and videos that expire in 24 hours and can be viewed an unlimited number of times by friends or anyone on Snapchat if the user sets the visibility setting to Everyone.⁶³⁴

⁶³³ See Snapchat Support, *How do I delete my Snapchat account?*, <https://support.snapchat.com/en-US/a/delete-my-account>

⁶³⁴ Darrell Etherington, *Snapchat Gets Its Own Timeline With Snapchat Stories, 24-Hour Photo & Video Tales*, TechCrunch (Oct. 3, 2013), <https://techcrunch.com/2013/10/03/snapchat-gets-its-own-timeline-with-snapchat-stories-24-hour-photo-video-tales/>.

1 Within eight months of launching the Stories feature, users were viewing more Stories per day than
 2 Snaps.⁶³⁵

3 492. Snap's Stories feature includes a running view count and list of viewers for each
 4 Story, both of which provide users with dopamine-triggering feedback that encourages users to
 5 make their Stories visible to everyone in order to increase the view count. The view count, view
 6 list, and ephemeral nature of Stories also reinforces the principle of reciprocity and compels users
 7 to monitor Stories, so they do not miss out.

8 493. In 2016, Snap updated the Stories feature to include recommendations based on an
 9 algorithm that considers "proximity, time, interestingness, or other such metrics."⁶³⁶ That same
 10 year, Snap introduced ads between Stories and updated Stories to include "Auto-Advance," a
 11 feature that starts a new Story automatically after the preceding one ends.⁶³⁷ This creates an endless
 12 cycle of consumption that Snap knows, or should know, is detrimental to users' mental health.⁶³⁸
 13 Nevertheless, Snap designed and implemented this feature because it is proven to induce a flow
 14 state that increases product use, regardless of whether the use is healthy or enjoyable.
 15 Unsurprisingly, one study of over 2,000 UK residents found 68% of respondents who used
 16 Snapchat reported that "the platform prevented them from sleeping."⁶³⁹

17 494. Since then, Snap has built upon its Stories interface with "Discover," a feature that
 18 showcases a continuous feed of advertisements to Snapchat's captive audience. Using Discover,
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 21 ⁶³⁵ Ellis Hamburger, *Surprise: Snapchat's most popular feature isn't snaps anymore*, The Verge
 22 (Jun. 20, 2014), <https://www.theverge.com/2014/6/20/5827666/snapchat-stories-bigger-than-snaps-electric-daisy-carnival>

23 ⁶³⁶ Snapchat, Inc., *Content Collection Navigation and Autoforwarding*, US 20170289234,
 24 USPTO (Mar. 29, 2016), <https://patents.justia.com/patent/20170289234>.

25 ⁶³⁷ James Vincent, Snapchat will start showing ads between your friends' stories, The Verge (Jun.
 26 14, 2016), <https://www.theverge.com/2016/6/14/11930386/snapchat-ads-api-stories>; Snapchat,
 27 Inc., *Content Collection Navigation and Autoforwarding*, US 20170289234, USPTO (Mar. 29,
 28 2016), <https://patents.justia.com/patent/20170289234>.

29 ⁶³⁸ See, e.g., Gino Gugushvili et al., Facebook use intensity and depressive symptoms: a
 30 moderated mediation mode of problematic Facebook use, age, neuroticism, and extraversion at 3,
 31 BMC Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

32 ⁶³⁹ Frazer Deans, *Curb Your Snapchat Addiction*, <https://www.wholesome.design/advent-2018/2-curb-your-snapchat-addiction/>.

users may subscribe to an advertiser's "channel" and watch its Stories; as well as see what their friends are watching.

495. Both Stories and Discover encourage user engagement with Snapchat and increase the amount of time users spend using the product by making the product more addictive at the expense of users' mental health and well-being.

(ii) “Spotlight”

496. In November 2020, Snap launched “Spotlight,” a feature that pushes to users “an endless feed” that Snap curates from its 300 million daily Snapchat users.⁶⁴⁰ Spotlight functions and appears nearly identical to TikTok, with similar addictive qualities and harms. Snapchat’s Spotlight feature allows users to make videos that anyone can view, and Snap pays users whose Spotlight videos go viral, thus serving as yet another reward system that encourages user engagement. After Snap introduced Spotlight, user time spent on the product increased by over 200%.⁶⁴¹

497. In February 2022, Snap CEO Evan Spiegel told investors that users are spending more time on Spotlight than almost any other aspect of Snapchat. A year prior, Snap announced “Spotlight Challenges,” which provided users with cash prizes for creating Spotlight videos with specific lenses, sounds, or topics, further integrating the user into the Snap ecosystem. Snap claims it paid out more than \$250 million in cash prizes to Spotlight Challenge participants in 2021 alone.⁶⁴²

4. **Snap designed Snapchat with features that harm children directly or expose children to harm.**

498. Snapchat further contains a number of features which foreseeably cause children harm above and beyond harms inherent in addiction and compulsive use.

⁶⁴⁰ Salvador Rodriguez, *Snap is launching a competitor to TikTok and Instagram Reels*, CNBC (Nov. 23, 2020), <https://www.cnbc.com/2020/11/23/snap-launching-a-competitor-to-tiktok-and-instagram-reels.html>.

⁶⁴¹ See *Snap Q4 Earnings Beat Estimates, User Growth Aids Top Line*, Zacks Equity Research (Feb. 5, 2021), <https://finance.yahoo.com/news/snap-q4-earnings-beat-estimates-153003950.html>.

⁶⁴² Mia Sato, *Snapchat will put ads within stories and share the money with creators* (Feb. 14, 2022), <https://www.theverge.com/2022/2/14/22927656/snapchat-snap-stars-stories-ads>.

1 a. **Disappearing “Snaps” and “My Eyes Only” encourage**
 2 **destructive behavior among Snap’s teen users.**

3 499. As discussed above, Snapchat’s “Snap” feature allows users to send and receive
 4 ephemeral, or “disappearing,” audiovisual messages. Prior to sending a Snap, a user can designate
 5 the period of time—typically no more than a few seconds—that the recipient will be allowed to
 6 view the Snap. According to Snapchat, once the allotted time expires, the Snap disappears forever.

7 500. Snapchat’s limited display time reduces teenagers’ communication apprehension
 8 and encourages users to send photos depicting deviant behavior.⁶⁴³ Sexting is a prime example, but
 9 cyberbullying, underage alcohol consumption, and illicit use of narcotics are also commonly the
 10 subject of Snaps. A 2016 survey of pre-teens and teens ages 12-17 found that “dick pics” were
 11 among some of the unwanted content that users—predominantly females—received while using
 12 the app.⁶⁴⁴

13 501. Disappearing Snaps do not operate as advertised. Although designed to disappear
 14 after an allotted time, recipients possess the ability to save or record them at will. This is particularly
 15 harmful to adolescents, who rely on Snap’s representations when taking and sending photos, and
 16 who only learn after the fact that recipients have the means to save photos or videos. In some cases,
 17 this can lead to sexual exploitation.

18 502. Snap could, but does not, warn users, including children and teenagers, that Snaps
 19 may not necessarily disappear.

20 503. In addition, and especially for pre-teen users, Snaps are defective because Snap’s
 21 parental controls are ill-equipped to mitigate the risks posed by this feature. As set forth below,
 22 even with parental controls activated, parents are unable to view a Snap’s content and therefore
 23 cannot adequately protect their children and/or deter their children from engaging in dangerous
 24 behavior in conjunction with sending Snaps.

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⁶⁴³ See Vaterlaus et al., “*Snapchat is more personal*”: An exploratory study on Snapchat
 27 behaviors and young adult interpersonal relationships, *Computers in Human Behavior*, 62, 594-
 601 (2016).

28 ⁶⁴⁴ Kofoed et al., (2106) *A snap of intimacy: Photo-sharing practices among young people on*
 social media, First Monday 21(11), <https://doi.org/10.5210/fm.v21i11.6905>.

1 504. “My Eyes Only” is yet another defective feature of Snapchat. This feature enables
 2 and encourages users to hide harmful content from their parents in a special tab that requires a
 3 passcode. Content cannot be recovered from “My Eyes Only”—allegedly even by Snap itself. Snap
 4 designed “My Eyes Only” knowing it would likely be used to store potentially illegal and injurious
 5 photos and images like sexts and CSAM.⁶⁴⁵ This dangerous product feature unreasonably increases
 6 the risk that Snapchat’s adolescent users, many under age 13, will be targeted and sexually
 7 exploited and/or trafficked by child predators.

8 505. The content in “My Eyes Only” self-destructs if a user attempts to access the hidden
 9 folder with the wrong code. “My Eyes Only” has no practical purpose or use other than to hide
 10 potentially dangerous content from parents and/or legal owners of the devices used to access
 11 Snapchat. Moreover, while this information and evidence should be in Snap’s possession and
 12 control, it has designed this feature in a way that causes the permanent loss of relevant, material,
 13 and incriminating evidence.

14 **b. Snapchat’s “Snap Map” feature endangers children.**

15 506. Snapchat also contains a feature called “Snap Map” that allows users to share their
 16 location with their followers (and the public) on an activity-level-based, color-coded heatmap. At
 17 all relevant times, this feature has been available to all users, including minors. Although users can
 18 disable “Snap Map,” this is not a default setting.

19 507. Snap Map is an unreasonably dangerous feature for underage users because it
 20 provides strangers with their locations, exposing children and adolescents to potential harm.
 21 Researchers have also found that Snap Map causes feelings of sadness and anxiety for some users,
 22 as they jealously view their friends’ locations.⁶⁴⁶ For young people especially, such social
 23 comparison often leads to distress and depression.

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⁶⁴⁵ Salvador Rodriguez, [Snapchat Finally Acknowledges the Existence of Sexting With 'Memories'](https://www.inc.com/salvador-rodriguez/snapchat-memories-sexting.html)
 26 *The latest app update includes a tool called "My Eyes Only" that lets you privately store sensitive*
 27 *photos and videos, Inc., (Jul. 6, 2016),* <https://www.inc.com/salvador-rodriguez/snapchat-memories-sexting.html>.

28 ⁶⁴⁶ See Dunn et al., “Oh, Snap!”: A Mixed-Methods Approach to Analyzing the Dark Side of
 Snapchat, The Journal of Social Media in Society, 9(2), 69-104 (2020).

508. Snap Map also functions as a social metric. A report by 5Rights, a United Kingdom-based children's online safety advocacy group highlighted the experience of John, a 14 year old boy, who explained that “[h]aving more connections on Snapchat makes his Snap Map look more crowded, which he can then show off to people in real life and therefore appear more ‘popular.’”⁶⁴⁷

c. **Snapchat's "Quick Add" feature endangers children.**

509. Through a feature known as “Quick Add,” Snap recommends new, sometimes random friends, similar to Facebook’s “People You Might Know” feature. Suggestions are formulated using an algorithm that considers users’ friends, interests, and location. Quick Add encourages users to expand their friend base to increase their Snapscore by interacting with an ever-expanding group of friends, which--in addition to expanding their time online--can result in exposure to dangerous strangers. Of particular concern, until 2022, Quick Add’s suggestions included profiles for users Snap knew to be between the ages of 13-17, meaning that Quick Add could, and in fact did, recommend that a minor and adult user connect.

510. Criminal users interested in selling drugs to minors have utilized the Quick Add feature to find random friends interested in making a purchase.

511. Despite these dangers Snap designed Quick Add because it increases the odds that users will add friends, send more Snaps, and spend more time using Snapchat.

512. In 2022, Snap revised the Quick Add feature to limit the friend suggestions promoted to minor users. For those aged 13 to 17, Quick Add would only suggest friends who shared a certain number of common friends with the minor user. Snap did not disclose how many common friends must be shared by each user to satisfy this safety feature. Further, this modification to the Quick Add feature still does not prohibit the connection of minors with adults.

d. **Snapchat's Lenses and Filters features promote negative appearance comparison.**

513. Snap also incorporates numerous custom-designed lenses and filters, which allow users to edit and overlay augmented-reality special effects and sounds on their Snaps. Many of

⁶⁴⁷ 5Rights Foundation, Pathways: How digital design puts children at risk (July 2021), <https://5rightsfoundation.com/uploads/Pathways-how-digital-design-puts-children-at-risk.pdf>.

1 Snapchat's lenses and filters change users' appearance and face, creating unrealistic, idealized
 2 versions that cause profound body image issues in teenagers, especially girls.

3 514. Examples of these features include the Smoothing Filter, which blurs facial
 4 imperfections and evens out skin tone; Bold Makeup, which adds makeup over the user's face,
 5 blurs imperfections, and evens out skin tone; Sunkissed and Cute Freckles, which adds freckles
 6 over the nose and cheeks, blurs imperfections, evens out skin tone, and adjusts skin color; Face and
 7 Body Mellow Glow, which smooths the face and body and adjusts skin color; and Fluffy Eyelashes,
 8 which alters the shape of the user's face by lifting their eyes and adding more pronounced cheek
 9 bones. The common theme among all of these filters is that they remove the subjects' perceived
 10 blemishes to create the perfect "selfie."



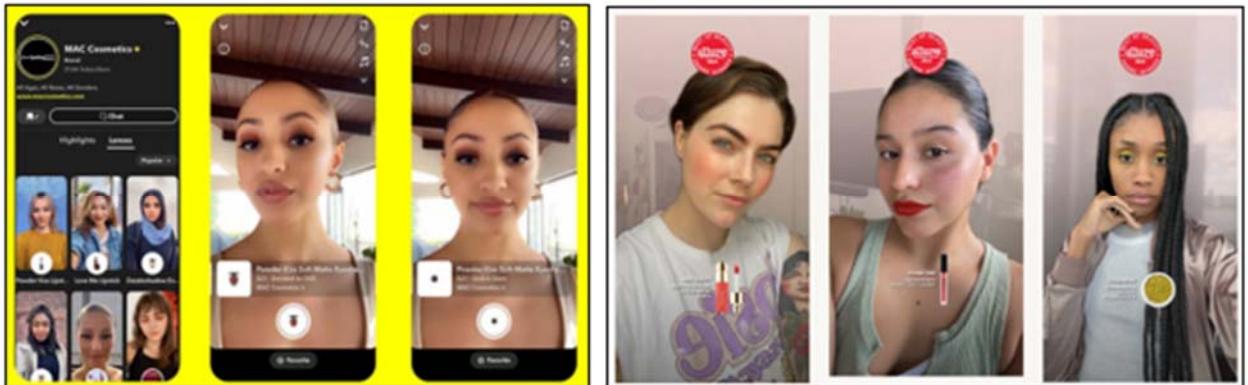
18 515. A 2017 study found that these features made Snapchat one of the worst social media
 19 products for the mental health of children and adolescents, behind only Instagram.⁶⁴⁸ In recent
 20 years, plastic surgeons have reported an increase in requests for alterations that correspond to
 21 Snapchat's filters. This has led researchers to coin the term "Snapchat Dysmorphia," in which the
 22 effect of Snapchat's filters triggers body dysmorphic disorder.⁶⁴⁹ The rationale underlying this
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⁶⁴⁸ Kara Fox, *Instagram worst social media app for young people's mental health*, CNN (May 19,
 25 2017), <https://www.cnn.com/2017/05/19/health/instagram-worst-social-network-app-young-people-mental-health/index.html>.

26 ⁶⁴⁹ Chen et al., *Association Between Social Media and Photograph Editing Use, Self-esteem, and*
 27 *Cosmetic Surgery Acceptance*, JAMA Facial Plastic Surgery, 2019; See also Nathan Smith &
 28 Allie Yang, *What happens when lines blur between real and virtual beauty through filters*, ABC
 News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.

1 disorder is that beauty filters on Snapchat create a “sense of unattainable perfection” that leads to
 2 self-alienation and damages a person’s self-esteem.⁶⁵⁰ One social psychologist summarized the
 3 effect as “the pressure to present a certain filtered image on social media,” which can certainly play
 4 into [depression and anxiety] for younger people who are just developing their identities.”⁶⁵¹



11 516. Snap also created and promoted “smart filters” that allowed users to stamp
 12 date/time, temperature, battery life, altitude, and speed on their Snaps.⁶⁵² These filters utilize sensor
 13 data on users’ devices to provide the desired filter stamp.

14 517. A particularly dangerous smart filter is the speed filter, which from 2013 to 2021
 15 allowed users to record their real-life speed and overlay that speed onto Snaps. Snap knew, or
 16 should have known, that the speed filter served no purpose other than to motivate, incentivize,
 17 and/or encourage users to drive at dangerous speeds in violation of traffic and safety laws. Indeed,
 18 soon after launching its speed filter, the feature became a viral game for users—particularly teenage
 19 users—to capture photos and videos of themselves driving at 100 miles-per-hour or more.

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 23 ⁶⁵⁰ Chen et al., *Association Between Social Media and Photograph Editing Use, Self-esteem, and Cosmetic Surgery Acceptance*, JAMA Facial Plastic Surgery, 2019; See also Nathan Smith &
 24 Allie Yang, *What happens when lines blur between real and virtual beauty through filters*, ABC News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.

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 26 ⁶⁵¹ Nathan Smith & Allie Yang, *What happens when lines blur between real and virtual beauty through filters*, ABC News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.

27 ⁶⁵² Karissa Bell, *Snapchat adds an altitude filter to show how high you are*, (Aug.19, 2016), <https://mashable.com/article/snapchat-altitude-filter-how-to>.

1 Tragically, the quest to capture a 100 mile-per-hour Snap caused a number of fatal vehicle accidents
 2 involving teens and young adults.⁶⁵³

3 518. Snap knew, or should have known, its speed filter created an unreasonable risk of
 4 harm to its users and the public. Despite this knowledge, however, as well as pleas from the public
 5 to disable the filter, Snap refused to remove the filter from its application until 2021.⁶⁵⁴

6 519. By including features like lenses, cartoonish filters, and stamps to attract ever-
 7 increasing numbers of children to use and engage with its product, Snap has knowingly created a
 8 product that leads to excessive use by children and teens and causes them to suffer harm.

9 **5. Snap has implemented ineffective and misleading parental controls,**
 10 **further endangering children.**

11 520. Snap has also designed and set up Snapchat with inadequate parental controls.

12 521. From Snapchat's launch in 2011 until August 2022, Snapchat had no parental
 13 controls even though its core user base was under the age of 18 and a significant number of those
 14 users were under the age of 13.

15 522. In August 2022, Snap introduced the "Family Center." The features and processes
 16 offered through the Family Center are woefully inadequate to protect teen and pre-teen users. The
 17 Family Center allows a parent or guardian to install Snapchat on their phone and then link to the
 18 child's account. The parent or guardian can then see who the child user is communicating with.
 19 However, the content of these communications remains hidden and still disappears after the allotted
 20 time. In addition, the Family Center does not allow a parent or guardian to block minors from
 21 sending private messages, control their child's use or engagement with many of Snapchat's product
 22 features, control their child's use of Snapchat's geolocation feature, or control who their child may

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 24 ⁶⁵³ *Did Snapchat play role in deaths of 3 young women?*, ABC6 Action News (Feb. 16, 2016),
<https://6abc.com/action-news-investigation-snapchat-fatal-car-crash-philadelphia/1196846/>;
 25 Manpreet Darroch, *Snapchat and driving . . . you could be sending your last snap* (Apr. 25, 2016),
<http://www.youthforroadsafety.org/news-blog/news-blog-item/t/snapchat-and-driving-hellip-you-could-be-sending-your-last-snap>; *The Most Dangerous App on Your Phone*,
DistractedDriverAccidents.com, <https://distracteddriveraccidents.com/the-most-dangerous-app-on-your-phone/>.

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 27 ⁶⁵⁴ Bobby Allyn, *Snapchat Ends 'Speed Filter' That Critics Say Encouraged Reckless Driving*,
 28 NPR (June 17, 2021), <https://www.npr.org/2021/06/17/1007385955/snapchat-ends-speed-filter-that-critics-say-encouraged-reckless-driving>.

1 add to their friend list. Finally, the Family Center fails to help a parent monitor their child's account
 2 when the child has secretly created a Snapchat account without the parents' knowledge in the first
 3 place.

4 **6. Snap facilitates the spread of CSAM and child exploitation.**

5 523. Despite being marketed to and designed for children, Snapchat includes a number
 6 of features that promote and dramatically exacerbate sexual exploitation, the spread of CSAM,
 7 sextortion, and other socially maladaptive behavior that harms children. Snap knows or should have
 8 known that its product features are unsafe for children and that it fails to implement reasonable,
 9 child-protective safeguards. For example, by failing to age-restrict its Discover feature, Snapchat's
 10 algorithm has recommended inappropriate sexual content to adolescent users. By promoting the
 11 connection between minors and adults, it is facilitating child exploitation and predation. By failing
 12 to implement parental controls that give parents true control over their children's activity, Snap
 13 allows harmful interactions with predators to continue unnoticed.

14 524. Like the other Defendants, as a direct consequence of the child exploitation that
 15 occurs on its platform, Snapchat is tainted by illegal material that promotes and facilitates the
 16 continued sexual exploitation of minors. Snap receives value in the form of increased user activity
 17 for the dissemination of CSAM on its product.

18 525. Furthermore, Snapchat's disappearing-content design, while appealing to minors,
 19 makes it more difficult for parents to monitor their children's social-media activity. This feature
 20 also contributes to a sense of impunity for many users, encouraging and fomenting exploitation and
 21 predatory behavior, which has been observed in multiple empirical studies.⁶⁵⁵ According to these
 22 studies, Snapchat users believe their conduct is hidden and accordingly feel empowered to engage
 23 in criminal behavior through the product without fear of getting caught.

24 526. These feelings are promoted by design. Snap intends for the product's disappearing
 25 messaging to entice users to share highly personal photos and information that many users would
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27 ⁶⁵⁵ *Snapchat by the Numbers: Stats, Demographics & Fun Facts*, Omnicore (Mar. 2, 2022),
 28 <https://www.omnicoreagency.com/snapchat-statistics/>.

1 otherwise feel uncomfortable sharing on “higher-stake” apps.⁶⁵⁶ In short, this design choice
 2 encourages and allows minors to share harmful, illegal, and sexually explicit images while
 3 providing predators with a vehicle to recruit victims. Studies have also found that the “close ties”
 4 generated between teenagers on Snapchat foster the conditions for grooming and other predatory
 5 behavior.

6 527. As a result, Snapchat is one of the go-to products for sexual predators.⁶⁵⁷

7 528. In 2014, Snap introduced “Snapcash,” a peer-to-peer mobile payment service.
 8 Snapcash provided a way for users to pay for private content with little to no oversight.⁶⁵⁸ Snapcash
 9 enabled CSAM and other sexual exploitation, as users were paid with Snapcash to send, receive,
 10 create, publish, save, accept, or otherwise participate in CSAM. It also enabled predators to extort
 11 cash from adolescent users by threatening to disseminate CSAM to other users.

12 529. Snapcash was abruptly removed from Snapchat in 2018 as users were sending
 13 sexually explicit photos and using Snapcash for payment.⁶⁵⁹

14 530. Snapchat also allows users to voice or video call one another in the app.⁶⁶⁰ This
 15 feature is dangerous when paired with the many others that permit easy access to minors by
 16 predators, such as Quick Add and Snap Map. It allows predators to call and video chat with minors
 17 in private, with virtually no evidence of what was exchanged. Predators use this function to identify
 18 children willing to add and speak with a stranger, and then prey on the child’s vulnerabilities.

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 21 ⁶⁵⁶ See Evelyn Lopez et al., *The Gratifications of Ephemeral Marketing Content, the Use of*
Snapchat by the Millennial Generation and Their Impact on Purchase Motivation, Global Bus.

22 Rev. (2021), <https://journals.sagepub.com/doi/pdf/10.1177/09721509211005676>.

23 ⁶⁵⁷ See, e.g., Rebecca Woods, *What Are The Dangers Of Snapchat To Avoid?*, PhoneSpector

(June 16, 2021), <https://phonespector.com/blog/what-are-the-dangers-of-snapchat-to-avoid/>.

24 ⁶⁵⁸ Kurt Wagner, *Snapchat to Let You Send Money to Friends, Thanks to Square*, Vox,

[https://www.vox.com/2014/11/17/11632930/snapchat-to-let-you-send-money-to-friends-thanks-](https://www.vox.com/2014/11/17/11632930/snapchat-to-let-you-send-money-to-friends-thanks-to-square)

[to-square](#).

25 ⁶⁵⁹ Christian Hargrave, *Snapcash Goes Away After Excessive Feature Misuse*. App Developer

26 Magazine (July 25, 2018), <https://appdevelopermagazine.com/snapcash-goes-away-after->

[excessive-feature-misuse/](#).

27 ⁶⁶⁰ Snapchat Support, *How to Start a Video Chat on Snapchat*, [https://support.snapchat.com/en-](https://support.snapchat.com/en-GB/a/video-chat#:~:text=You%20can%20Video%20Chat%20with,into%20a%20full%2Dscreen%20Chat)

[GB/a/video-](#)

[chat#:~:text=You%20can%20Video%20Chat%20with,into%20a%20full%2Dscreen%20Chat">chat#:~:text=You%20can%20Video%20Chat%20with,into%20a%20full%2Dscreen%20Chat](#).

1 531. Collectively, these product features promulgate communication and conduct with a
 2 false sense of intimacy between users and encourage predators to use Snapchat to target children
 3 for grooming, sexual exploitation, sextortion, and CSAM.

4 532. In November 2019, a bipartisan group of Senators sent a letter to leading tech
 5 companies, including Snapchat. The letter sought answers about the online sexual grooming of
 6 children and CSAM detection technologies.⁶⁶¹ The following year, ParentsTogether, a national
 7 parent group, delivered a petition from 100,000 parents to Snap demanding that the company do
 8 more to “protect children from sexual abuse and exploitation” on Snapchat.⁶⁶² The petition listed
 9 numerous examples of widespread online sexual grooming of children, including: a high school
 10 coach in New Mexico who used Snapchat to extort sexual videos from several girls as young as
 11 fourteen; a Cleveland man who posed as a therapist and blackmailed a thirteen-year-old girl into
 12 sending him sexual videos and photos; and a Virginia man who was arrested for running a
 13 sextortion ring on Snapchat, coercing children into sending sexually explicit material.⁶⁶³

14 533. In response, Snap announced that by Fall of 2020, it would deploy technology in
 15 addition to Microsoft’s PhotoDNA to help stop the spread of CSAM through its product.

16 534. By failing to utilize these technologies until late 2020, Snap harmed adolescent users
 17 as its product contributed to child exploitation, sextortion, and the spread of CSAM.

18 535. In addition, while Snapchat allows users to report harmful images or videos, they
 19 cannot specifically report CSAM that is sent to a user via direct messaging, including from another
 20 user’s camera roll.

21 536. Snapchat’s disappearing messages cannot be reported at all.

22 537. While Snap states that it is using “technology to identify *known* illegal images and
 23 videos of CSAM and report them to NCMEC,” it does not address how Snapchat’s design

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 25⁶⁶¹ *Letter to Sundar Pichai and 36 other Tech Companies by Senate Committee* (Nov. 18, 2019),
<https://www.blumenthal.senate.gov/imo/media/doc/11.18.19%20-%20Google%20-%20CSAM.pdf>.

26⁶⁶² *Snapchat: Prevent Pedophiles from Sharing Abuse Videos*, <https://parents-together.org/snapchat-petition>.

27⁶⁶³ *Snapchat: Prevent Pedophiles from Sharing Abuse Videos*, <https://parents-together.org/snapchat-petition>.

1 contributes to the ongoing proliferation of CSAM materials and the sexual exploitation of its
 2 adolescent users.

3 538. Utilizing the data and information it collects about Snapchat's users, Snap could
 4 detect, report, and take actions to prevent instances of sexual grooming, sextortion, and CSAM
 5 distribution.

6 539. Despite receiving numerous reports regarding how its product's features contribute
 7 to child exploitation, Snap has elected to keep many of these features in place.⁶⁶⁴ It has done so
 8 because removing them would significantly diminish Snapchat's popularity and negatively impact
 9 profits.

10 540. Notwithstanding these glaring flaws, Snap advertises and promotes its product as
 11 safe and fun. Snap's Vice President of Global Public Policy, Jennifer Stout, stated in written
 12 testimony to a Senate Subcommittee that Snap takes "into account the unique sensitivities and
 13 considerations of minors when we design products"⁶⁶⁵ when, in fact, Snap intentionally designed
 14 its product to promote compulsive and excessive use and help underage users conceal information
 15 from their parents. Stout claimed that Snap makes it harder for strangers to find minors when, in
 16 fact, Snapchat's "Quick Add" feature is responsible for introducing minors to complete strangers,
 17 and its "Snap Map" feature has enabled threats, exploitation, and location of minors by complete
 18 strangers. Likewise, Snap's Head of Global Platform Safety, Jacqueline Beauchere, represented to
 19 the public that "Snapchat is designed for communications between and among real friends; it
 20 doesn't facilitate connections with unfamiliar people like some social media platforms."⁶⁶⁶ But
 21 again, this is not true and/or historically was not the case.

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24 ⁶⁶⁴ See, e.g., Zak Doffman, *Snapchat Has Become A 'Haven For Child Abuse' With its "Self-*
 25 *Destructing Messages'*, Forbes (May 26, 2019),
<https://www.forbes.com/sites/zakdoffman/2019/05/26/snapchats-self-destructing-messages-have-created-a-haven-for-child-abuse/?sh=411b8e1d399a>.

26 ⁶⁶⁵ Snap's Senate Congressional Testimony - Our Approach to Safety, Privacy and Wellbeing,
 27 <https://values.snap.com/news/senate-congressional-testimony-our-approach-to-safety-privacy-and-wellbeing>.

28 ⁶⁶⁶ Snap's Meet Our Head of Global Platform Safety, <https://values.snap.com/news/meet-our-head-of-global-platform-safety>.

1 541. In addition, Snap knows or should have known, that its products facilitate and
 2 encourage the production, possession, distribution, receipt, transportation, and dissemination of
 3 millions of materials that exploit children and violate child pornography laws. Snap further knows,
 4 or should have known, that its product facilitates the production, possession, distribution, receipt,
 5 transportation, and dissemination of materials that depict obscene visual representations of the
 6 sexual abuse of children.

7 542. Upon information and belief, Snap has developed, or is developing, artificial
 8 intelligence technology that detects adult users of Snapchat who send sexually explicit content to
 9 children and receive sexually explicit images from children. This technology furnishes Snap with
 10 actual knowledge that a significant number of minor users of Snapchat are solicited to send, and do
 11 send, sexually explicit photos and videos of themselves to adult users in violation of 18 U.S.C.
 12 § 1591(a)(1)-(2).⁶⁶⁷

13 **7. Snap failed to adequately warn Plaintiffs about the harms its product**
 14 **causes or provide instructions regarding safe use.**

15 543. Since Snap's inception, it has failed to warn adolescent users about its products'
 16 physical and mental health risks. These risks include, but are not limited to, addiction, compulsive
 17 and excessive use, sexual exploitation by adult users, dissociative behavior, social isolation, and an
 18 array of mental health disorders like body dysmorphism, anxiety, depression, and insomnia.

19 544. Snap targets adolescent users via advertising and marketing materials distributed via
 20 digital and traditional media, including expensive advertisements placed during high-profile
 21 sporting events. Snap fails to warn the targets of these ads—often minors—about the physical and
 22 mental risks associated with using Snapchat.

23 545. Snap further fails to warn adolescent users during the product registration process.
 24 At account setup, Snap's product contains no warning labels, banners, or conspicuous messaging
 25 to adequately inform adolescent users of the known risks and potential physical and mental harms
 26 associated with usage of its product. Instead, Snap allows adolescent users to easily create an
 27 account (or multiple accounts) and fully access the product.

28 ⁶⁶⁷ See SNAP0000001-SNAP0000002.

1 546. Snap's lack of adequate warnings continues after an adolescent has the Snapchat
 2 product. Snap does not adequately inform adolescent users that their data will be tracked, used to
 3 help build a unique algorithmic profile, and potentially sold to Snap's advertising clients, who will
 4 in turn use the data to target and profile the user.

5 547. Alarmingly, Snap also does not warn adolescent users before facilitating adult
 6 connections and interactions that adult predators use its product. It also fails to instruct adolescent
 7 users on ways to avoid unknown adults on Snap.

8 548. Snap also fails to warn adolescent users who exhibit problematic signs of addiction
 9 or are habitually and compulsively accessing the app. Instead, Snap utilizes push notifications to
 10 encourage engagement with Snapchat.

11 549. In addition, despite proactively providing adolescent users with countless filtering
 12 and editing tools, Snap does not warn its adolescent users regarding the mental health harms
 13 associated with those heavily filtered images.

14 550. Snap also does not warn users that:

- 15 a. adult predators target children and teenagers for sexual exploitation,
 sexortion, and CSAM on Snap's product;
- 16 b. usage of its product can increase the risk of children being targeted and
 sexually exploited by adult predators;
- 17 c. usage of its product can increase risky and uninhibited behavior in children,
 making them easier targets for sexual exploitation, sexortion, and CSAM
 by adult predators; and,
- 18 d. end-to-end encryption and/or ephemeral nature of Snap's direct messaging
 product prevents the reporting of CSAM.

24 551. Snap's failure to properly warn and instruct adolescent users has proximately caused
 25 significant harm to Plaintiffs' mental and physical well-being, and other injuries and harms as set
 26 forth herein.

27 552. Snap also fails to warn parents about all of the foregoing dangers and harms.

28

1 553. Snap's failure to adequately warn and instruct as set forth herein proximately caused
 2 significant harm to Plaintiffs' mental and physical well-being, and other injuries and harms as set
 3 forth herein.

4 **D. FACTUAL ALLEGATIONS AS TO BYTEDANCE**

5 554. Since its launch, TikTok has grown exponentially. In late 2021, its owner and creator
 6 ByteDance publicly stated that TikTok had 1 billion active global users, up from 55 million in early
 7 2018 and 700 million in mid-2020.⁶⁶⁸ One internal marketing strategy document reported that as of
 8 July 2020, TikTok had 95% market penetration in Mobile App Users/ smartphone population of
 9 users under 17.⁶⁶⁹

10 555. A large swath of TikTok's user base is comprised of American children. In July
 11 2020, TikTok reported that more than one-third of its 49 million daily users in the United States
 12 were 14 or younger.⁶⁷⁰ More recently, a 2022 Pew Research Center survey reported that 67% of
 13 American teenagers (age 13-17) use TikTok, with most American teenagers (58%) using the
 14 product daily. Among teenage TikTok users, a quarter say they use the site or app almost
 15 constantly.⁶⁷¹ In another recent report, more than 13% of young users declared they "wouldn't want
 16 to live without" TikTok.⁶⁷²

17 556. TikTok's capture of the American youth market is no accident, but instead the result
 18 of a carefully executed campaign. Early on, Alex Zhu, one of TikTok's creators, recognized that
 19
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22 ⁶⁶⁸ Jessica Bursztynsky, *TikTok says 1 billion people use the app each month*, CNBC (Sept. 27,
 23 2021), <https://www.cnbc.com/2021/09/27/tiktok-reaches-1-billion-monthly-users.html>.

24 ⁶⁶⁹ TIKTOK3047MDL-001-00000622 at *27.

25 ⁶⁷⁰ Raymond Zhong & Sheera Frenkel, *A Third of TikTok's U.S. Users May Be 14 or Under, Raising Safety Questions*, N.Y. Times (Aug. 14, 2020),
 26 <https://www.nytimes.com/2020/08/14/technology/tiktok-underage-users-ftc.html>.

27 ⁶⁷¹ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
 28 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

27 ⁶⁷² Victoria Rideout et al., *Common Sense Census: Media use by tweens and teens, 2021* at 31,
 28 Common Sense Media (2022), www.commonSenseMedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

1 “[t]eenagers in the U.S. [were] a golden audience” for this emerging social media product.⁶⁷³ To
 2 cash in on this gold, ByteDance implemented a series of product features designed to attract and
 3 addict young users. As Zhu explained in 2019, “[e]ven if you have tens of millions of users, you
 4 have to keep them always engaged.”⁶⁷⁴ This engagement has come at the cost of young users’
 5 health.

6 **1. Background and overview of TikTok.**

7 557. In 2012, Beijing-based technologist Zhang Yiming paired up with an American
 8 venture capitalist, Matt Huang, to launch ByteDance and its first product Jinri Toutiao (“Today’s
 9 Headlines”), which utilized A.I. to gather and present world news to users on a single feed.

10 558. Following the success of its first product, ByteDance created Douyin in 2016, a
 11 music-based app loosely modeled on the popular app Musical.ly. Musical.ly was a critical hit in
 12 the U.S. as American teens gravitated to the platform, which allowed users, including minor users,
 13 to create 15-second videos of themselves lip-syncing, dancing, or goofing around to popular songs
 14 and movie scenes, and then post them to a scrollable feed for other users to see.

15 559. In 2017, ByteDance launched TikTok, a version of Douyin for the non-Chinese
 16 market, and acquired Musical.ly, which by then boasted a user base of almost 60 million monthly
 17 active users, for \$1 billion. Nine months later, ByteDance merged its newly acquired app into its
 18 existing product, and a global version of TikTok was born.

19 560. Douyin is a version of TikTok that is exclusively for Chinese users. ByteDance’s
 20 design of Douyin is profoundly different than TikTok. Douyin serves its Chinese users educational
 21 and patriotic content and limits their use to just 40 minutes per day.⁶⁷⁵ TikTok, in sharp contrast,
 22 has no usage limits and is designed to encourage addictive and compulsive use. Far from promoting
 23

24 ⁶⁷³ Paul Mozur, *Chinese Tech Firms Forced to Choose Market: Home or Everywhere Else*, N.Y.
 25 Times (Aug. 9, 2016), <https://www.nytimes.com/2016/08/10/technology/china-homegrown-internet-companies-rest-of-the-world.html>.

26 ⁶⁷⁴ Biz Carson, *How A Failed Education Startup Turned into Musical.ly, The Most Popular App You’ve Probably Never Heard Of*, Bus. Insider (May 28, 2016),
<https://www.businessinsider.com/what-is-musically-2016-5> (emphasis added).

27 ⁶⁷⁵ Sapna Maheshwari, *Young TikTok Users Quickly Encounter Problematic Posts, Researchers Say*, N.Y. Times (Dec. 14, 2022), <https://www.nytimes.com/2022/12/14/business/tiktok-safety-teens-eating-disorders-self-harm.html>.

1 educational content, TikTok's algorithm instead actively sends its young American users down a
 2 harmful rabbit hole of artificially filtered "ideal" body images and dangerous viral challenges.

3 **2. ByteDance intentionally encourages youth to use its product and then**
leverages that use to increase revenue.

5 561. ByteDance has designed and aggressively marketed TikTok, the harmful and
 6 addictive version of Douyin, to attract young Americans.

7 562. Like the other Defendants' products, TikTok depends on advertising revenue, which
 8 has boomed. TikTok was projected to receive \$11 billion in advertising revenue in 2022, over half
 9 of which is expected to come from the United States.⁶⁷⁶

10 563. The initial iteration of TikTok allowed users to lip sync pop music by celebrities
 11 who appealed primarily to teens and tweens (e.g., Selena Gomez and Ariana Grande). It labeled
 12 folders with names attractive to youth (e.g., "Disney" and "school"); and included in those folders
 13 songs such as "Can You Feel the Love Tonight" from the movie "The Lion King," "You've Got a
 14 Friend in Me" from the movie "Toy Story," and other renditions covering school-related subjects
 15 or school-themed television shows and movies.⁶⁷⁷

16 564. ByteDance also specifically and intentionally excluded videos that would not appeal
 17 to young Americans, instructing TikTok moderators that videos of "senior people with too many
 18 wrinkles" should not be permitted on users' "For You" pages because such content was "much less
 19 attractive [and] not worth[] . . . recommend[ing]."⁶⁷⁸

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⁶⁷⁶ Jessica Bursztynsky, *TikTok says 1 billion people use the app each month*, CNBC (Sept. 27, 2021), <https://www.cnbc.com/2021/09/27/tiktok-reaches-1-billion-monthly-users.html>; Bhanvi
 24 Staija, *TikTok's ad revenue to surpass Twitter and Snapchat combined in 2022*, Reuters (Apr. 11, 2022), <https://www.reuters.com/technology/tiktoks-ad-revenue-surpass-twitter-snapchat-combined-2022-report-2022-04-11/>.

25 ⁶⁷⁷ Complaint for Civil Penalties, Permanent Injunction, and Other Equitable Relief ("Musical.ly
 26 Complaint") at p. 8, ¶¶ 26–27, *United States v. Musical.ly*, 2:19-cv-01439-ODW-RAO (C.D. Cal.
 27 Feb. 27, 2019) Dkt. # 1.

28 ⁶⁷⁸ Sam Biddle et al., *Invisible Censorship: TikTok Told Moderators to Suppress Posts by "Ugly"*
 People and the Poor to Attract New Users, Intercept (Mar. 15, 2020),
<https://theintercept.com/2020/03/16/tiktok-app-moderatorsusers-discrimination/>.

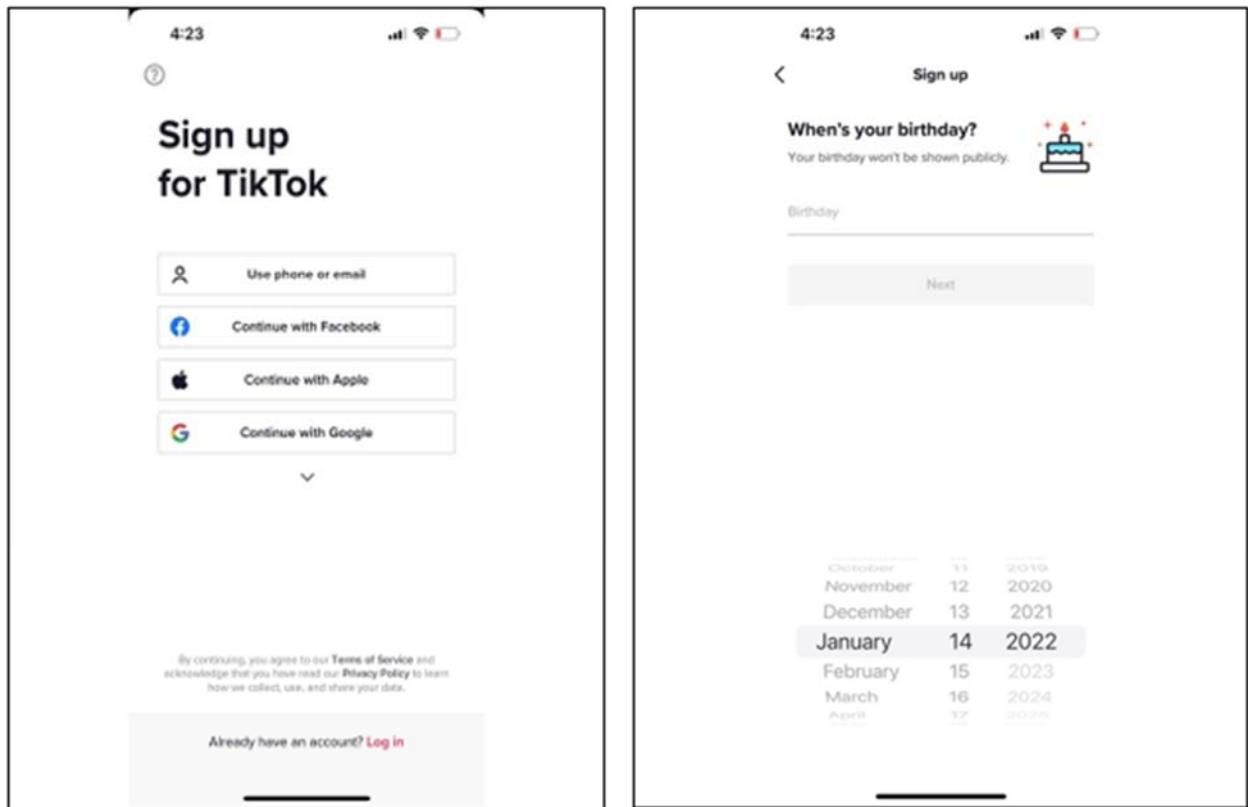
1 565. Even TikTok's sign-up process demonstrates that young users are what ByteDance
 2 values most. In 2016, the birthdate for those signing up for the app defaulted to the year 2000 (i.e.,
 3 16 years old).⁶⁷⁹

4 **3. ByteDance intentionally designed product features to addict children**
and adolescents.

6 566. TikTok's growth among young Americans has been further enabled by its defective
 7 age verification and parental control procedures, which allow children under 13 unfettered access
 8 to the app.

9 **a. TikTok's age-verification measures are defective.**

10 567. When a user first opens TikTok, they are prompted to "Login in to TikTok" or "Sign
 11 up" for an account using a phone number or email address. TikTok then asks, "When's your
 12 birthday?"



27 679 Melia Robinson, *How to Use Musical.ly, The App With 150 million Users That Teens Are*
 28 *Obsessed With*, Bus. Insider (Dec. 7, 2016), <https://www.businessinsider.com/how-to-use-musically-app-2016-12>.

1 568. ByteDance does not verify the age that TikTok users report. Nor does it use any
 2 method to verify that users who acknowledge they are minors have the consent of their parents or
 3 legal guardians to use the product. In fact, at least as of 2020, TikTok still had not developed a
 4 company position on age verification.⁶⁸⁰

5 569. ByteDance has designed TikTok so users can circumvent TikTok's age restrictions
 6 by using TikTok without creating an account. TikTok allows users, no matter what age, to "browse
 7 as [a] guest," and watch TikTok's "For You" page while TikTok's algorithm collects data about
 8 that user and their viewing behavior.⁶⁸¹

9 570. ByteDance knows that many U.S. TikTok users under the age of 13 fail to report
 10 their birth dates accurately.⁶⁸²

11 571. ByteDance's Trust and Safety team recognizes that one of the biggest challenges it
 12 faces is "determining who is a minor (defined as users 13-17 years old)."⁶⁸³

13 572. In 2019, the FTC acted on this admission and alleged that ByteDance failed to
 14 comply with COPPA.⁶⁸⁴

15 573. TikTok settled the FTC claims, agreeing to a then-record civil COPPA penalty and
 16 several forms of injunctive relief intended to protect children who use the product.⁶⁸⁵

17 574. To comply with the terms of that settlement, ByteDance created "TikTok for
 18 Younger Users," a "limited app experience" for users under the age of 13.⁶⁸⁶ "TikTok for Younger

20 ⁶⁸⁰ TIKTOK3047MDL-001-00060941 at *85 ("Minor Safety Policy & PnP," PowerPoint,
 January 2021).

21 ⁶⁸¹ *Browse as Guest*, TikTok Support, <https://support.tiktok.com/en/log-in-troubleshoot/login/browse-as-guest>.

22 ⁶⁸² Jon Russell, *Musical.ly Defends its Handling of Young Users, As it Races Past 40M MAUs*, TechCrunch (Dec. 6, 2016), <https://techcrunch.com/2016/12/06/musically-techcrunch-disrupt-london/>.

23 ⁶⁸³ TIKTOK3047MDL-001-00060811 at *16.

24 ⁶⁸⁴ See Musical.ly Complaint, at p. 8, ¶¶ 26–27.

25 ⁶⁸⁵ Natasha Singer, *TikTok Broke Privacy Promises, Children's Groups Say*, NY Times (May 14, 2020), <https://www.nytimes.com/2020/05/14/technology/tiktok-kids-privacy.html#:~:text=TikTok%2C%20the%20popular%20app%20for%20making%20and%20sharing,%20children%E2%80%99s%20and%20consumer%20groups%20said%20on%20Thursday>.

26 ⁶⁸⁶ *TikTok for Younger Users*, TikTok (Dec. 13, 2019), <https://newsroom.tiktok.com/en-us/tiktok-for-younger-users>.

1 “Users” does not permit users to “share their videos, comment on others’ videos, message with users,
2 or maintain a profile or followers.”⁶⁸⁷ However, users can still “experience what TikTok is at its
3 core” by recording and watching videos on TikTok. For that reason, experts state the app is
4 “designed to fuel [kids’] interest in the grown-up version.”⁶⁸⁸

5 575. Moreover, users under 13 can easily delete their age-restricted accounts and sign up
6 for an over-13 account on the same mobile device—without any restriction or verification—using
7 a fake birthdate.

8 576. The absence of effective age verification measures also means that adult users claim
9 to be children—with obvious dangers to the children on ByteDance’s product.

b. TikTok's parental controls are defective.

577. Following the FTC settlement, ByteDance created a “Family Pairing” feature on
TikTok. The supposed purpose of that feature was to allow parents to link their accounts to their
children’s accounts and enforce certain controls (such as screen time limits and restriction of
“content that may not be appropriate for all audiences”).⁶⁸⁹

15 578. “Family Pairing” also is supposed to allow parents to prevent their children from
16 direct messaging other TikTok users. But ByteDance has designed TikTok’s “Family Pairing”
17 feature so that it is not mandatory for minor users. And to use it, a parent or guardian is forced to
18 create their own TikTok account to pair it with their child’s account. Further, the “Family Pairing”
19 feature is available only on the TikTok app. It provides no protection when a child accesses TikTok
20 through a web browser. Because this feature requires parents to know the name of their child’s
21 account to pair it, youth can easily evade the protections of the “Family Pairing” feature by creating
22 anonymous accounts, again without parental approval or knowledge.

²⁵ ⁶⁸⁷ Dami Lee, *TikTok Stops Young Users from Uploading Videos after FTC Settlement*, Verge (Feb. 27, 2019), <https://www.theverge.com/2019/2/27/18243510/tiktok-age-young-user-videos-ftc-settlement-13-childrensprivacy-law>.

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²⁷ 688 Leonard Sax, *Is TikTok Dangerous for Teens?*, Inst. Fam. Stud. (Mar. 29, 2022), <https://ifstudies.org/blog/istiktok-dangerous-for-teens>.

⁶⁸⁹ *TikTok Introduces Family Pairing*, TikTok Newsroom (April 15, 2020) <https://newsroom.tiktok.com/en-us/tiktok-introduces-family-pairing>.

579. ByteDance further stymies parents' ability to supervise minors' use of TikTok by permitting minor users to block their parent's profile, post ephemeral videos called "Stories" that disappear after 24 hours, and post those stories to "Friends Only."

580. ByteDance could, but does not, adopt safety features that notify parents when minors are engaging excessively with the product and are using it during sleeping hours.

581. Until January 13, 2021, ByteDance interfered with parental supervision and endangered children by defaulting all accounts, including those registered to children as young as 13, to “public.” That allowed strangers to contact minor users regardless of age or location. ByteDance also intentionally and actively promoted these types of connections by suggesting accounts to follow through the “Find Friends” or “People You May Know” features.

582. Today, for users 16 and over, ByteDance still sets the default privacy setting for all registered accounts to “public,” meaning that anyone can view a user’s profile, on or off TikTok, request the user as a friend, or engage with the user’s content.⁶⁹⁰

c. **ByteDance intentionally designed TikTok's defective features and algorithms to maximize engagement using automatic content, time-limited experiences, intermittent variable rewards, reciprocity, and ephemeral content.**

583. Like each of the other Defendants, ByteDance has designed and coded TikTok with features that foster addictive and compulsive use by youth, leading to a cascade of additional mental and physical injuries.

584. One of TikTok's defining features is its "For You" page (or "FYP"). According to ByteDance, it is "central to the TikTok experience and where most of our users spend their time."⁶⁹¹

585. TikTok's FYP uses ByteDance's powerful machine-learning algorithms to select content to feed users to maximize their engagement and thereby serve ByteDance's interests—as opposed to simply responding to searches by users. As one industry commentator explained,

⁶⁹⁰ See, e.g., Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psych. Sci. 1027–35 (July 2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999>.

⁶⁹¹ *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020), <https://newsroom.tiktok.com/en-us/howtiktok-recommends-videos-for-you/>.

1 TikTok uses “a machine-learning system that analyzes each video and tracks user behavior so that
 2 it can serve up a continually refined, never-ending stream of TikToks optimized to hold [users’]
 3 attention.”⁶⁹² As another commentator put it, “you don’t tell TikTok what you want to see. It tells
 4 you.”⁶⁹³

5 586. Zhu has remarked that, “[e]ven if you have tens of millions of users, you have to
 6 keep them always engaged.”⁶⁹⁴ Thus, according to Zhu, TikTok’s algorithms are “focused primarily
 7 on increasing the engagement of existing users.”⁶⁹⁵

8 587. An internal document titled “TikTok Algo 101,” which TikTok has confirmed is
 9 authentic, “explains frankly that in the pursuit of the company’s ‘ultimate goal’ of adding daily
 10 active users, it has chosen to optimize for two closely related metrics in the stream of videos it
 11 serves: ‘retention’—that is, whether a user comes back—and ‘time spent.’”⁶⁹⁶

12 588. “This system means that watch time is key,” explained Guillaume Chaslot, the
 13 founder of Algo Transparency.⁶⁹⁷ Chaslot noted that “rather than giving [people] what they really
 14 want,” TikTok’s “algorithm tries to get people addicted[.]”⁶⁹⁸

15 589. To fulfill this goal, the TikTok algorithm responds to a user’s time spent watching
 16 and engaging with a video by feeding them similar content.⁶⁹⁹ As TikTok describes it, the
 17 algorithms populate each user’s FYP feed by “ranking videos based on a combination of factors”

18 ⁶⁹² Jia Tolentino, *How TikTok Holds Our Attention*, New Yorker (Sept. 30, 2019),
 19 <https://www.newyorker.com/magazine/2019/09/30/how-tiktok-holds-our-attention>.

20 ⁶⁹³ Drew Harwell, *How TikTok Ate the Internet*, Wash. Post. (Oct. 14, 2022),
<https://www.theday.com/business/20221015/how-tiktok-ate-the-internet/>.

21 ⁶⁹⁴ Biz Carson, *How a Failed Education Startup Turned Musical.ly, the Most Popular App You’ve
 Probably Never Heard Of*, Business Insider (May 28, 2016),
<https://www.businessinsider.com/what-is-musically-2016-5> (emphasis added).

22 ⁶⁹⁵ Joseph Steinberg, *Meet Musical.ly, the Video Social Network Quickly Capturing the Tween
 and Teen Markets, Inc.* (June 2, 2016), <https://www.inc.com/joseph-steinberg/meet-musically-the-video-social-network-quickly-capturing-the-tween-and-teen-m.html>.

24 ⁶⁹⁶ Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021),
<https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

25 ⁶⁹⁷ Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021),
<https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

26 ⁶⁹⁸ Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021),
<https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

27 ⁶⁹⁹ Kaitlyn Tiffany, *I’m Scared of the Person TikTok Thinks I Am*, The Atlantic (June 21, 2021),
<https://www.theatlantic.com/technology/archive/2021/06/your-tiktok-feed-embarrassing/619257/>.

1 that include, among others, any interests expressed when a user registers a new account, videos a
 2 user likes, accounts they follow, hashtags, captions, sounds in a video they watch, certain device
 3 settings, such as their language preferences and where they are located, and finally the likelihood
 4 of the user's interest.⁷⁰⁰

5 590. ByteDance has designed TikTok's algorithm so that certain factors, such as time
 6 spent watching a video, are more important to the algorithm than others. For example, TikTok
 7 explains that, "whether a user finishes watching a longer video from beginning to end, would
 8 receive greater weight than . . . whether the video's viewer and creator are both in the same
 9 country."⁷⁰¹

10 591. TikTok's algorithms are designed to begin working the minute a user opens the app.
 11 The FYP shows the user a single, full-screen stream of videos, then records how the user reacts. "A
 12 second of viewing or hesitation indicates interest; a swipe suggests a desire for something else."⁷⁰²
 13 With each data point collected, TikTok's algorithm winnows a mass of content to a single feed,
 14 continually refined to keep users engaging often and at length.

15 592. This algorithmic encouragement of continuous scrolling and interaction makes it
 16 hard for users to disengage from the app. A recent ByteDance-funded study, which imaged the
 17 brains of TikTok and other social media product users, found that those using TikTok engaged with
 18 the product about 10 times a minute, twice as often as with peer apps.⁷⁰³

19 ⁷⁰⁰ *Investigation: How TikTok's Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul. 21,
 20 2021), <https://www.wsj.com/video/series/inside-tiktoks-highly-secrective-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796>; see also *How TikTok recommends videos #ForYou* / TikTok Newsroom, <https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

21 ⁷⁰¹ *Investigation: How TikTok's Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul. 21,
 22 2021), <https://www.wsj.com/video/series/inside-tiktoks-highly-secrective-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796>; see also *How TikTok recommends videos #ForYou* / TikTok Newsroom, <https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

23 ⁷⁰² *Investigation: How TikTok's Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul. 21,
 24 2021), <https://www.wsj.com/video/series/inside-tiktoks-highly-secrective-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796>; see also *How TikTok recommends videos #ForYou* / TikTok Newsroom, <https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

25 ⁷⁰³ *TikTok Ads Break Through Better Than Tv and Drive Greater Audience Engagement*, TikTok, <https://www.tiktok.com/business/library/TikTokDrivesGreaterAudienceEngagement.pdf>.

1 593. ByteDance leverages users' inability to disengage as a benefit to attract advertisers,
 2 rather than taking steps to address the addictive nature of its product. A recent TikTok marketing
 3 document observed that "the TikTok audience is fully leaned in."⁷⁰⁴ Marketing research
 4 commissioned by TikTok found that compared to other social media sites, TikTok users evidenced
 5 a higher frequency of rate per minute. TikTok boasted, "[o]ur algorithm and shorter video formats
 6 create continuous cycles of engagement, making TikTok the leading platform for Information
 7 Density."⁷⁰⁵

8 594. ByteDance also creates images and GIFs for users to incorporate into TikTok videos
 9 to keep users returning to the product. And ByteDance has acquired publishing rights to thousands
 10 of hours of music and video, which it provides its users to attach to the videos and pictures they
 11 post on TikTok.

12 595. TikTok's powerful machine-learning algorithms dictate the content of each user's
 13 FYP. An estimated 90-95% of the content viewed on TikTok comes from its algorithms (as opposed
 14 to user selection), the highest among Defendants' products.⁷⁰⁶

15 596. The algorithm encourages use of the product, regardless of whether that use is
 16 enjoyable or healthy. From TikTok's perspective, it doesn't matter whether you're engaging with
 17 a video because you're horrified or angry or upset—the engagement itself is the end goal.

18 597. As the algorithm continues to refine what users see, they are "more likely to
 19 encounter harmful content."⁷⁰⁷ Indeed, TikTok's quest to monopolize user attention often forces
 20 users down "rabbit holes" of harmful content. Users end up in these rabbit holes, and become
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 23 ⁷⁰⁴ *TikTok Ads Break Through Better Than Tv and Drive Greater Audience Engagement*, TikTok,
<https://www.tiktok.com/business/library/TikTokDrivesGreaterAudienceEngagement.pdf>.

24 ⁷⁰⁵ *TikTok Ads Break Through Better Than Tv and Drive Greater Audience Engagement*, TikTok,
<https://www.tiktok.com/business/library/TikTokDrivesGreaterAudienceEngagement.pdf>.

25 ⁷⁰⁶ *Investigation: How TikTok's Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul. 21,
 26 2021), <https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796>.

27 ⁷⁰⁷ *Inside TikTok's Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021),
 28 <https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

1 trapped in them, because TikTok has optimized its algorithm's design for retention and time spent
 2 on the app.⁷⁰⁸ TikTok wants to keep users coming back as often as possible for as long as possible.

3 598. Once users are in a rabbit hole, it is extremely difficult to climb out. One user was
 4 shown a few anti-vaccination conspiracy theory videos on his FYP and commented on them in an
 5 attempt to refute the videos' claims. His feed was quickly overtaken with similar videos, and it took
 6 him months of intentional interaction with the app to purge this content from his FYP.⁷⁰⁹ In general,
 7 escaping a rabbit hole requires a user to repeatedly and actively strategize ways to counter the
 8 algorithm, pitting individual users' David against TikTok's machine-learning Goliath.

9 599. The Wall Street Journal documented the pernicious operation of ByteDance's
 10 algorithms, as shown by a recent experiment. The experimenters used bots, each programmed with
 11 various interests such as sports, forestry, dance, astrology, and animals. They did not disclose these
 12 interests upon registration with TikTok. Instead, TikTok's algorithm quickly learned the assigned
 13 interests from the bots' behavior—that is, "by rewatching or pausing on videos" related to the bot's
 14 programmed interest.⁷¹⁰

15 600. One bot watched 224 videos in 26 minutes, lingering over videos with hashtags for
 16 "depression" or "sad." The algorithm quickly refined its output. Afterward, 93% of the videos
 17 TikTok showed that bot were about depression or sadness. One post implored the bot to: "Just go.
 18 Leave. Stop trying. Stop pretending. You know it and so do they. Do Everyone a favor and
 19 leave."⁷¹¹

20 601. ByteDance's choices about how to design and structure its app—including choosing
 21 not to implement effective age gating and parental controls, in addition to choosing to design
 22 algorithms to maximize engagement through pushing extreme and outrageous content—go far
 23 beyond benignly organizing the content of others. Instead, they create an environment and

24 ⁷⁰⁸ Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021),
 25 <https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

26 ⁷⁰⁹ Kaitlyn Tiffany, *I'm Scared of the Person TikTok Thinks I Am*, The Atlantic (June 21, 2021),
 27 <https://www.theatlantic.com/technology/archive/2021/06/your-tiktok-feed-embarrassing/619257/>.

28 ⁷¹⁰ *Inside TikTok's Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021),
 29 <https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

30 ⁷¹¹ *Inside TikTok's Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021),
 31 <https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

1 experience suited to ByteDance's goal of maximizing ad revenues—an environment and
 2 experience that is unreasonably dangerous to the children and teens ByteDance targets.

3 602. In a follow-up experiment by the Wall Street Journal, bots were registered as users
 4 between 13 and 15 years-old. One of those bots, programmed to pause on videos referencing drugs,
 5 lingered briefly on "a video of a young woman walking through the woods with a caption" referring
 6 to "stoner girls." The next day, the algorithm showed the bot a video about a "marijuana-themed
 7 cake." Then, the "majority of the next thousand videos" that TikTok's algorithm produced "tout[ed]
 8 drugs and drug use," including marijuana, psychedelics, and prescription drugs.⁷¹²

9 603. The algorithm immersed another bot—registered as a 13-year-old boy—into a rabbit
 10 hole of videos related to bondage and sex, including videos explaining, among other things, "how
 11 to tie knots for sex, recover from violent sex acts and discussing fantasies about rape."⁷¹³ The bot
 12 simply searched for the term "onlyfans"—a site known for hosting adult entertainment—and
 13 watched a handful of videos in the results before returning to the FYP.⁷¹⁴ The algorithm
 14 subsequently bombarded the bot with videos about sex and, as the bot lingered on those videos, the
 15 bot's feed became almost entirely dominated by sex-related videos. At one point, "more than 90
 16 percent of [the] account's video feed was about bondage and sex."⁷¹⁵

17 604. The Wall Street Journal concluded "that through its powerful algorithms, TikTok
 18 can quickly drive minors—among the biggest users of the app—into endless spools of content about
 19 sex and drugs."⁷¹⁶ In another follow-up experiment, the Wall Street Journal found that once
 20 TikTok's algorithm determined that the bots would rewatch videos related to weight loss, it
 21

22
 23 ⁷¹² Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
 2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

24 ⁷¹³ Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
 2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

25 ⁷¹⁴ Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
 2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

26 ⁷¹⁵ Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
 2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

27 ⁷¹⁶ Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
 2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

1 “speedily began serving more, until weight-loss and fitness content made up more than half their
 2 feeds—even if the bot never sought it out.”⁷¹⁷

3 605. Indeed, TikTok’s algorithm recommended over 32,000 weight-loss videos over a
 4 two-month period, “many promoting fasting, offering tips for quickly burning belly fat and pushing
 5 weight-loss detox programs and participation in extreme weight-loss competitions.”⁷¹⁸

6 606. Alyssa Moukheiber, a treatment center dietitian, explained that TikTok’s algorithm
 7 can push children into unhealthy behaviors or trigger a relapse of disordered eating.⁷¹⁹ Indeed,
 8 several teenage girls interviewed by the Wall Street Journal reported developing eating disorders
 9 or relapsing after being influenced by extreme diet videos TikTok promoted to them.⁷²⁰

10 607. Their experiences are not unique. Katie Bell, a co-founder of the Healthy Teen
 11 Project, explained that “the majority of her 17 teenage residential patients told her TikTok played
 12 a role in their eating disorders.”⁷²¹

13 608. Others, like Stephanie Zerwas, an Associate Professor of Psychiatry at the
 14 University of North Carolina at Chapel Hill, could not even recount how many of her young patients
 15 told her that “I’ve started falling down this rabbit hole, or I got really into this or that influencer on
 16 TikTok, and then it started to feel like eating-disorder behavior was normal, that everybody was
 17 doing that.”⁷²²

18
 19 ⁷¹⁷ Tawnell D. Hobbs, ‘*The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-
 20 Disorder Videos*, Wall St. J. (Dec. 17, 2021), <https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848>.

21 ⁷¹⁸ Tawnell D. Hobbs, ‘*The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-
 22 Disorder Videos*, Wall St. J. (Dec. 17, 2021), <https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848>.

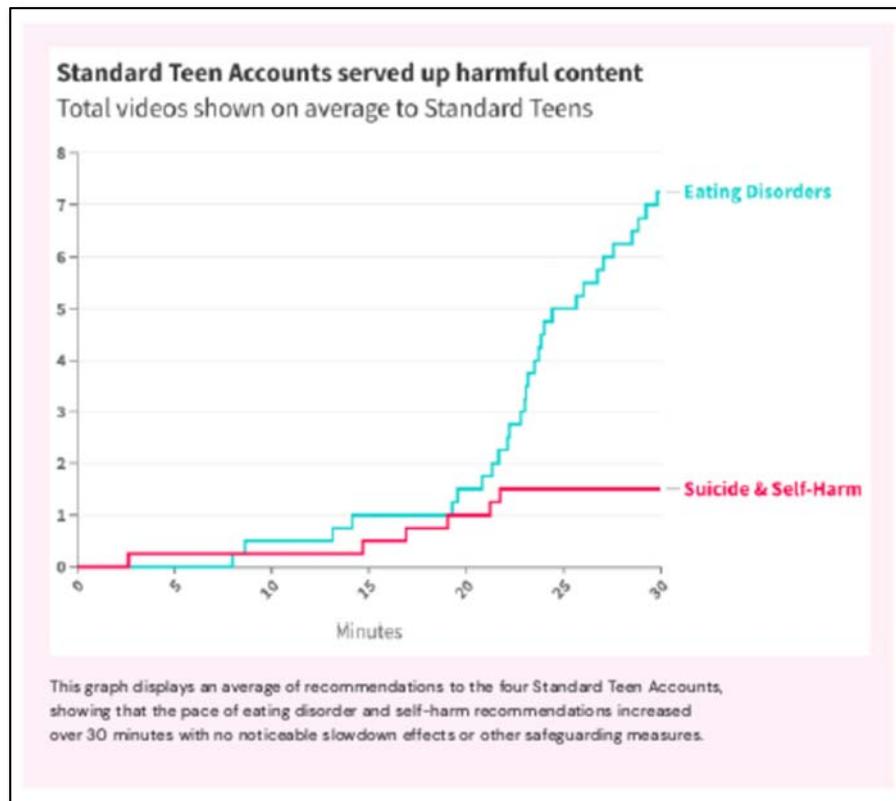
23 ⁷¹⁹ Tawnell D. Hobbs, ‘*The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-
 24 Disorder Videos*, Wall St. J. (Dec. 17, 2021), <https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848>.

25 ⁷²⁰ Tawnell D. Hobbs, ‘*The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-
 26 Disorder Videos*, Wall St. J. (Dec. 17, 2021), <https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848>.

27 ⁷²¹ Tawnell D. Hobbs, ‘*The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-
 28 Disorder Videos*, Wall St. J. (Dec. 17, 2021), <https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848>.

1 609. In December 2022, the Center for Countering Digital Hate (“CCDH”) conducted a
2 similar study, creating TikTok accounts with a registered age of 13 in the United States, United
3 Kingdom, Canada, and Australia.⁷²³ For the first 30 minutes on the app, the accounts paused briefly
4 on videos about body image and mental health and liked them. “Where researchers identified a
5 recommended video matching one of the below categories, they viewed the video for 10 seconds
6 and liked it. For all other videos, researchers would immediately scroll the For You feed to view
7 the next video recommended by TikTok.”⁷²⁴ TikTok’s algorithm seized on this information and
8 within minutes began recommending content about eating disorders and self-harm.

9 610. The CCDH report further illustrated TikTok's algorithms at work, noting that, for
10 an account that liked content about body image and mental health, the algorithm recommended
11 similar content every 39 seconds. As the 30 minutes went on, TikTok recommended more videos
12 related to eating disorders, suicide, and self-harm, as the graph below shows.



⁷²³ *Deadly by Design*, Center for Countering Digital Hate (Dec. 2022), https://counterhate.com/wp-content/uploads/2022/12/CCDH-Deadly-by-Design_120922.pdf.

⁷²⁴ Tawnell D. Hobbs, ‘*The Corpse Bride Diet*’: How TikTok Inundates Teens With Eating-Disorder Videos, Wall St. J. (Dec. 17, 2021), <https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848>.

1 611. TikTok's rabbit holes are particularly problematic for young people, who lack the
 2 necessary impulse control to stop watching. The more the user engages by viewing or hesitating on
 3 a particular piece of content, the more TikTok's algorithms learn about the user. ByteDance uses
 4 this feature to exploit the vulnerabilities of children and teenagers, and addict them to its product.

5 612. Indeed, ByteDance admits that its recommendation algorithm creates a "risk of
 6 presenting an increasingly homogeneous stream of videos."⁷²⁵ As the above-referenced studies and
 7 experiments demonstrate, that homogeneous stream often includes harmful content, including posts
 8 about depression, self-harm, drugs, and extreme diets.

9 613. Rather than preventing children from falling down these harmful rabbit holes or
 10 encountering harmful content, ByteDance threw up its hands, insisting "[i]t is not TikTok's place
 11 to decide for people what is or is not 'appropriate' for them or their teens."⁷²⁶

12 614. ByteDance uses a series of interrelated design features that exploit known mental
 13 processes to induce TikTok's users to use the product more frequently, for more extended periods,
 14 and with more intensity (i.e., providing more comments and likes). ByteDance knows or should
 15 have known that children, whose brains are still developing, are particularly susceptible to these
 16 addictive features.

17 615. TikTok is defective in part because ByteDance designed the app so users cannot
 18 disable the auto-play function on the FYP.⁷²⁷ As noted above, when a user opens the TikTok app
 19 or visits the TikTok website, the product immediately begins playing a video on the user's FYP.
 20 The user may request more videos with a simple upward swipe, and the product will deliver a
 21 seemingly endless content stream. If a user does not proceed from a video, it continues to play on
 22 an endless loop. The ability to scroll continuously induces a "flow-state" and distorts users' sense
 23 of time.

24
 25

26 ⁷²⁵ *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020),
 27 <https://newsroom.tiktok.com/en-us/howtiktok-recommends-videos-for-you>.

28 ⁷²⁶ TIKTOK3047MDL-001-00060817.

28 ⁷²⁷ *2 Best Ways You Can Turn off TikTok Autoplay*, Globe Calls (Dec. 16, 2022),
 29 <https://globecalls.com/2-best-ways-you-can-turn-off-tiktok-autoplay/>.

1 616. The TikTok app interface is designed with only a limited number of buttons and
 2 sections of the app for users to navigate, such that the design does not impede “flow.”

3 617. The FYP also leverages principles of IVR to encourage compulsive usage, in the
 4 same fashion as Instagram Reels. A user swipes to receive the next video, and each swipe offers
 5 the prospect (but not the certainty) of dopamine-releasing stimuli.

6 618. The cumulative effect of these features is addictive, compulsive engagement. As
 7 researchers at the Brown University School of Public Health explained, “the infinite scroll and
 8 variable reward pattern of TikTok likely increase the addictive quality of the app as they may induce
 9 a flow-like state for users that is characterized by a high degree of focus and productivity at the task
 10 at hand.”⁷²⁸

11 619. Dr. Julie Albright, a Professor at the University of Southern California, similarly
 12 explained that TikTok is so popular because users will “just be in this pleasurable dopamine state,
 13 carried away. It’s almost hypnotic, you’ll keep watching and watching.” Users “keep scrolling,”
 14 according to Dr. Albright, “because sometimes you see something you like, and sometimes you
 15 don’t. And that differentiation—very similar to a slot machine in Vegas—is key.”⁷²⁹

16 620. Aza Raskin, the engineer who designed infinite scroll, described the feature as being
 17 “as if [social media companies are] taking behavioral cocaine and just sprinkling it all over your
 18 interface, and that’s the thing that keeps you coming back and back and back.” Because the infinite
 19 scroll does not “give your brain time to catch up with your impulses . . . you just keep scrolling.”⁷³⁰

20 621. To reinforce this addictive experience, ByteDance intentionally omits the concept
 21 of time from their product, stripping information such as when a user uploaded a video from its
 22

23 ⁷²⁸ Sophia Petrillo, *What Makes TikTok So Addictive? An Analysis of the Mechanisms Underlying*
 24 *the World’s Latest Social Media Craze*, Brown Undergraduate J. of Pub. Health (Dec. 13, 2021),
<https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/>.

25 ⁷²⁹ John Koetsier, *Digital Crack Cocaine: The Science Behind TikTok’s Success*, Forbes (Jan. 18,
 26 2020), <https://www.forbes.com/sites/johnkoetsier/2020/01/18/digital-crack-cocaine-the-science-behind-tiktoks-success/?sh=765d1b4178be>.

27 ⁷³⁰ John Koetsier, *Digital Crack Cocaine: The Science Behind TikTok’s Success*, Forbes (Jan. 18,
 28 2020), <https://www.forbes.com/sites/johnkoetsier/2020/01/18/digital-crack-cocaine-the-science-behind-tiktoks-success/?sh=765d1b4178be>.

1 endless stream of content. In the FYP, there is no way to discern how long ago the video was posted,
 2 or when the user who posted the video joined TikTok.

3 622. On at least some phones, TikTok is designed to cover the clock displayed at the top
 4 of user's iPhones, preventing them from keeping track of the time spent on TikTok.⁷³¹

5 623. ByteDance has designed the app so that users can see, however, how many times a
 6 video was liked, commented on, or shared. So, the only thing users can quantify within the app is
 7 the approval or disapproval of others.

8 624. In June 2022, after receiving public criticism regarding its product's effects on
 9 people's mental health, ByteDance introduced various tools to purportedly encourage users to take
 10 a break from infinite scrolling, such as a "Take a Break" reminder and time-limit caps. ByteDance
 11 could but does not activate these tools by default. Even for minors, once they have exceeded 100
 12 minutes of usage a day, TikTok only "reminds" them that these "Take a Break" tools exist upon
 13 opening the app, but does not automatically activate them by default.

14 625. In addition to the defective infinite scroll, ByteDance has designed TikTok so it has
 15 other design features that exploit social psychological impulses to induce children to use TikTok
 16 daily and for extended periods of time, adding to the product's addictive nature.

17 626. Several TikTok features actively encourage users to generate ephemeral photos and
 18 videos. This defect promotes compulsive use, because users risk missing the content posted by their
 19 friends and others if they do not check TikTok at least daily.

20 627. A TikTok user can, for example, post expiring "Stories," short videos that disappear
 21 after 24 hours. These videos do not otherwise appear in a user's feed. TikTok's live stream feature
 22 is similar.⁷³²

23 628. A relatively new feature, "TikTok Now," pushes daily notifications to users to share
 24 "authentic, real-time images or 10-second videos at the same time as your friends."⁷³³ ByteDance

25
 26 ⁷³¹ Louise Matsakis, *On TikTok, There is No Time*, Wired (October 3, 2019),
<https://www.wired.com/story/tiktok-time/>.

27 ⁷³² Hilary Anderson, *Social media apps are 'deliberately addictive to users'*, BBC (July 4, 2018),
<https://www.bbc.com/news/technology-44640959>.

28 ⁷³³ *TikTok Now*, TikTok, <https://www.tiktok.com/creators/creator-portal/product-feature-updates/tiktok-now>.

1 designed this feature so that once a user gets the notification, the user has three minutes to post an
 2 image or video. That user cannot view friends' "TikTok Now" posts without sharing one of their
 3 own, and posts submitted outside of the three-minute window are marked as "late." TikTok
 4 preserves a user's history in a calendar view, adding to the pressure to visit the app daily and when
 5 notified by TikTok to do so. ByteDance designed these defective features to increase
 6 responsiveness to notifications and keep young users locked into the product, as they do not want
 7 to miss out on this perceived social activity.

8 629. Like "Snap Streaks," "TikTok Now" does not enhance the communication function
 9 of the product, but simply exploits young users' susceptibility to persuasive design, teenage social
 10 anxiety, and FOMO. ByteDance's insidious design of "TikTok Now" also employs point scoring
 11 and competition with others to drive frequent and continuous engagement by children, who
 12 otherwise risk checking in late and alienating other peers participating in the exchange.

13 630. Like the other Defendants' apps, ByteDance designed TikTok to leverage the
 14 principle of IVR by encouraging users to like, share, or reshare videos that others have created or
 15 posted. Receiving a "Like" or "Reshare" indicates that others approve of that user's content and
 16 satisfies their natural, developmentally predictable desire for acceptance. As discussed above,
 17 "Likes" activate the reward region of the brain and release dopamine to create a positive feedback
 18 loop.⁷³⁴ Users return to TikTok again and again, hoping for yet another pleasurable experience.⁷³⁵

19 631. ByteDance also designed TikTok to use reciprocity to manipulate users into using
 20 the app. One example is the "Duet" feature, which allows users to post a video side-by-side with a
 21 video from another TikTok user. Users utilize "Duet" to react to the videos of TikTok content
 22 creators. ByteDance intends the response to engender a reciprocal response from the creator of the
 23 original video, inducing them to return to the app.

24
 25 ⁷³⁴ Rasan Burhan & Jalal Moradzadeh, *Neurotransmitter Dopamine (DA) and its Role in the*
Development of Social Media Addiction, 11(7) J. Neurology & Neurophysiology 507 (2020),
<https://www.iomcworld.org/openaccess/neurotransmitter-dopamine-da-and-its-role-in-the-development-of-social-media-addiction.pdf>.

26
 27 ⁷³⁵ Rasan Burhan & Jalal Moradzadeh, *Neurotransmitter Dopamine (DA) and its Role in the*
Development of Social Media Addiction, 11(7) J. Neurology & Neurophysiology 507 (2020),
<https://www.iomcworld.org/openaccess/neurotransmitter-dopamine-da-and-its-role-in-the-development-of-social-media-addiction.pdf>.

1 632. Another “core feature” of TikTok that ByteDance has pursued are “challenges,”
 2 which are campaigns that compel users to create and post in TikTok certain types of videos, such
 3 as performing a dance routine or a dangerous prank. By fostering competition and the social
 4 rewards of posting a challenge video, ByteDance incentivizes users to engage with the product
 5 continuously.

6 633. Harmful and dangerous interactions are a foreseeable consequence of TikTok’s
 7 engagement-maximization design. For example, numerous minor users have injured themselves or
 8 others participating in viral pranks to obtain rewards and increase the number of likes, views, and
 9 followers.

10 634. One such viral prank, “the Benadryl challenge,” features a user filming themselves
 11 taking large quantities of Benadryl to cause hallucinations or induce an altered mental state. Other
 12 similar viral challenges include the “NyQuil Challenge,” in which young people are encouraged to
 13 eat chicken cooked in NyQuil; the “Milk Crate Challenge,” where adolescents climb atop a stack
 14 of milk crates and jump off; the “Penny Challenge,” where young users are encouraged to plug a
 15 charger halfway into an outlet while holding a penny against the exposed prongs; and the “Blackout
 16 Challenge” where youth are encouraged to make themselves faint by holding their breath and
 17 constricting their chest muscles or restricting airflow with a ligature around their neck.

18 635. TikTok challenges have led to serious health complications, seizures, and death,
 19 with at least 12 children in the United States dying from the TikTok Blackout Challenge alone.⁷³⁶

20 636. As more users engage with a challenge video, the creator of the video is awarded
 21 increased “Likes,” views, and followers. TikTok’s reward features thus incentivize this dangerous
 22 behavior, resulting too often in physical harm or humiliation in the obsessive pursuit of social
 23 significance.⁷³⁷

24
 25 ⁷³⁶ Quinn Nguyen, *Don’t let your kids try these 9 dangerous TikTok trends!*
<https://cyberpurify.com/knowledge/9-dangerous-tiktok-trends/>; Olivia Carville, *TikTok’s Viral
 Challenges Keep Luring Young Kids to Their Deaths*, Bloomberg (Nov. 30, 2022)
<https://www.bloomberg.com/news/features/2022-11-30/is-tiktok-responsible-if-kids-die-doing-dangerous-viral-challenges>.

26
 27 ⁷³⁷ See TIKTOK3047MDL-001-00000813 (“The algorithm is designed to surface viral content,
 28 regardless of its source.”).

1 637. ByteDance encourages businesses to create challenges as a form of marketing,
 2 explaining that challenges are “geared towards building awareness and engagement,” and “research
 3 shows that they can deliver strong results” and increased return on ad spending “at every stage of
 4 the funnel.”⁷³⁸ While ByteDance extolls the revenue potential from challenges, young users
 5 continue to face new and serious harms as the challenges’ stakes grow even more extreme and
 6 dangerous.

7 d. **ByteDance’s defective features include impediments to**
 8 **discontinuing use.**

9 638. Even if a user escapes the addictiveness of TikTok’s design and decides to delete
 10 their account, ByteDance makes doing so a lengthy and complex undertaking. The deletion process
 11 is defectively designed to encourage users to retain their accounts, even if their stated reason for
 12 deletion is that the product is endangering their safety or health.

13 639. When a user selects the “Deactivate or delete account” in the “Account” section of
 14 the TikTok app, the user is presented an option: “Delete or deactivate?” Deactivating an account
 15 will preserve the user’s data, but hide it from the product; deleting, on the other hand, will
 16 permanently delete all data associated with the account.

17 640. However, ByteDance designed TikTok so that deletion is not immediate. The data
 18 and account are preserved for 30 days, during which time the user can reactivate their account.

19 641. If a user selects the “Delete account permanently” option, the user is asked “Why
 20 are you leaving TikTok?” The user must select from the following list: (1) I’m leaving temporarily;
 21 (2) I’m on TikTok too much; (3) Safety or privacy concerns; (4) Too many irrelevant ads; (5)
 22 Trouble getting started; (6) I have multiple accounts; or (7) Another reason.

23 642. If a user selects “I’m on TikTok too much,” ByteDance makes a last-ditch effort to
 24 retain the user by reminding the user that a limit can be set on the user’s watch time on the product.
 25 If a user selects “Safety or privacy concerns,” the user is provided a list of resources to “secure”
 26 the account. If the user selects “Another reason,” a written explanation must be provided. The only

27 ⁷³⁸ *Branded Hashtag Challenge: Harness the Power of Participation*, TikTok for Business (Mar.
 28 16, 2022), <https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-power-of-participation>.

1 option that does not provide or require further information is “I have multiple accounts.” ByteDance
 2 isn’t worried about users deleting merely one account if they already have multiple others.

3 643. Once a user selects a reason for deletion, the next screen prompts the user to
 4 download their TikTok data.

5 644. Before the user continues the deletion, the product requires the user to check a box
 6 at the bottom of the screen that says, “[b]y continuing, you reviewed your data request and wish to
 7 continue deleting your account.” This contrasts with the process of a user “agreeing” to the Terms
 8 of Service and Privacy Policy during the registration process, which does not require a separate
 9 confirmation.

10 645. Once the user confirms a desire to continue with the deletion process, the product
 11 takes the user to yet another screen, which yet again asks whether the user wants to “delete this
 12 account?” The text also explains that the account will be deactivated for 30 days, during which the
 13 user may reactivate the account, and after 30 days, the account and data associated with it will be
 14 permanently deleted. It goes on to warn that if a user deletes the account, the user will no longer be
 15 able to do many things in the app.

16 646. Once a user again confirms that they want to delete their account, TikTok requires
 17 validation with a 6-digit code sent to the telephone number or email address associated with the
 18 account. Only after the user receives and enters the code may they finally “delete” their account
 19 (after waiting 30 days).

20 647. ByteDance’s account deletion process is inadequate for children attempting to
 21 escape its addictive and harmful product. Requiring a child to go through multiple steps, and
 22 offering alternatives, as well as a list of things they are giving up, is designed to convince them to
 23 change their mind. Moreover, requiring the user to maintain a deactivated account for 30 days,
 24 rather than deleting it on demand, increases the chance that an addicted user will relapse and return
 25 to the app.

26 648. ByteDance’s intentionally cumbersome and defective deletion process prioritizes
 27 the retention of young users, and ad revenue that they generate, over their well-being.

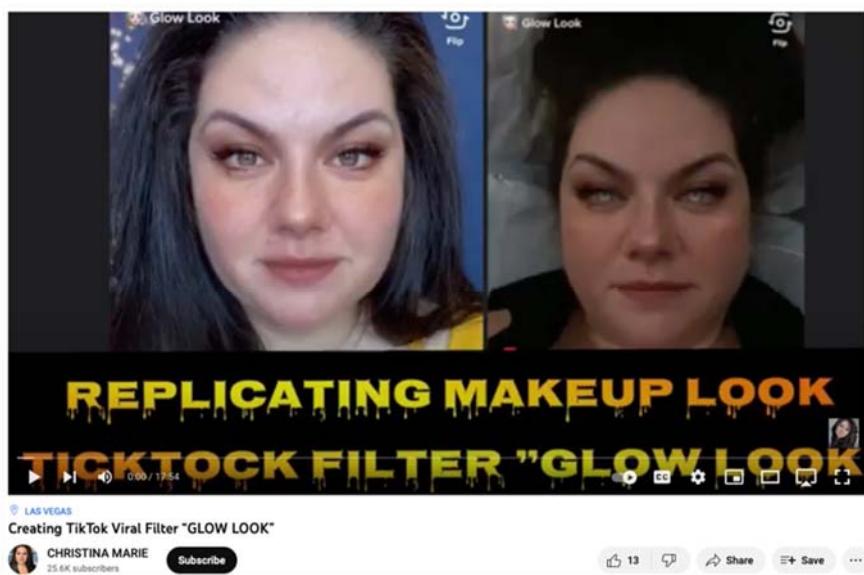
28

e. **ByteDance's defective features inflict impossible image standards and encourage negative appearance comparison.**

649. ByteDance designed TikTok with image-altering filters that harm users. These filters allow children to artificially change their appearance, for example by lightening their skin and eyes, giving them glowing tan skin, or giving them larger lips or fluttering eyelashes.

650. Young people often then compare the filtered images to their real-life appearance, developing a negative self-image based on unrealistic, artificial images.⁷³⁹ Many young girls use image-altering filters every day, harming their mental health. And those filters subconsciously make girls feel imperfect and ugly, “reduc[ing] their self-compassion and tolerance for their own physical flaws.”⁷⁴⁰

651. So compelling is the desire to resemble more closely the filtered ideal that there are online tutorials explaining how to recreate certain filters using makeup.



⁷³⁹ Anna Haines, *From ‘Instagram Face’ To ‘Snapchat Dysmorphia’: How Beauty Filters Are Changing The Way We See Ourselves*, Forbes (Apr. 27, 2021 at 1:19 PM EDT).

<https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>

⁷⁴⁰ Anna Haines, *From ‘Instagram Face’ To ‘Snapchat Dysmorphia’: How Beauty Filters Are Changing The Way We See Ourselves*, Forbes (Apr. 27, 2021 at 1:19 PM EDT),

<https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

1 652. Children’s idealization of their filtered image is externally reinforced when the
 2 filtered images receive more likes, comments, and other interaction. Young people also compare
 3 these interaction “scores” to those of friends and celebrities who use filters, reinforcing the idea
 4 that beauty depends on matching a digital ideal.

5 653. But filters, retouch, and other editing tools available on TikTok often alter specific
 6 facial features, such as the shape of a person’s eyes and lips, in ways that would require medical
 7 intervention to alter in real life. Children, particularly girls, are thus striving for a standard of beauty
 8 that is functionally impossible to achieve, with every TikTok filter creating a test that they are
 9 doomed to fail.

10 **4. ByteDance facilitates the spread of CSAM and child exploitation.**

11 654. ByteDance has designed various TikTok features that promote and dramatically
 12 exacerbate sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive
 13 behavior that harms children.

14 655. TikTok’s design features enable the spread of this illegal material, and it receives
 15 value in the form of increased user activity for disseminating these materials on the product.

16 656. TikTok allows users to add a location to publicly shared videos of themselves.⁷⁴¹
 17 TikTok encourages the use of location services, “prompt[ing] [users] to turn on Location Services
 18 when [users] browse the For You feed.”

19 657. By providing access to a child user’s present physical location, ByteDance
 20 encourages predators to locate nearby children for purposes of sexual exploitation, sextortion, and
 21 CSAM.

22 658. ByteDance designed TikTok with a “Your Private Videos,” feature, where users can
 23 create and store private videos that are only visible to the user, better known as “Post-in-Private”
 24 accounts, where adult predators store, create, post, and share CSAM. Within days of following a
 25 small number of “Post-in-Private” accounts, TikTok’s algorithm begins recommending dozens of

27 ⁷⁴¹ *Location Information on TikTok*, TikTok, <https://support.tiktok.com/en/account-and-privacy/account-privacy-settings/location-services-on-tiktok>.

1 other “Post-in-Private” accounts to follow, making it easy for predators to view and share even
 2 more CSAM.⁷⁴²

3 659. These accounts are nominally private, but users can share their usernames and
 4 passwords with other users to access these private videos.⁷⁴³ While ByteDance’s user policy forbids
 5 sharing passwords with other users, TikTok’s design means that it is nonetheless very easy to do.⁷⁴⁴

6 660. ByteDance designed TikTok to offer two-factor authentication but does not require
 7 users to enable it. In fact, when a user creates a new account, the default setting disables the two-
 8 factor authentication.⁷⁴⁵

9 661. Furthermore, TikTok allows more than one device to be simultaneously logged into
 10 a single account, allowing multiple predators to use one “Post-in-Private” account simultaneously.

11 662. ByteDance’s “Post-in-Private” accounts feature also facilitate the grooming of
 12 children and adolescents by adult predators. Adult predators can store CSAM videos in “Your
 13 Private Videos” and then show them to adolescent users as a grooming tool. Should adult predators
 14 convince adolescent users to create CSAM of themselves in the “Post-in-Private” accounts, the
 15 “Your Private Videos” feature makes it easy for the videos to be produced, uploaded, and stored.

16 663. Another defective feature of TikTok is its livestream product, “TikTok LIVE.”
 17 Although ByteDance’s policy restricts access for anyone under eighteen to “TikTok LIVE,”
 18 TikTok’s design, as discussed above, does not incorporate an age verification protocol, so it is easy
 19 for underage users to access this feature.⁷⁴⁶

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⁷⁴² *Location Information on TikTok*, TikTok, <https://support.tiktok.com/en/account-and-privacy/account-privacy-settings/location-services-on-tiktok>.

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⁷⁴³ Gracelynn Wan, *These TikTok Accounts Are Hiding Child Sexual Abuse Material In Plain Sight*, Forbes (Nov. 14, 2022) <https://www.forbes.com/sites/alexandralevine/2022/11/11/tiktok-private-csam-child-sexual-abuse-material/?sh=749d6cb63ad9>.

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⁷⁴⁴ TikTok Terms of Service, <https://www.tiktok.com/legal/page/us/terms-of-service/en>.

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⁷⁴⁵ *How your email and phone number are used on TikTok*, TikTok, <https://support.tiktok.com/en/account-and-privacy/personalized-ads-and-data/how-your-phone-number-is-used-on-tiktok>.

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⁷⁴⁶ *What is TikTok LIVE?*, TikTok, <https://support.tiktok.com/en/live-gifts-wallet/tiktok-live/what-is-tiktok-live>.

1 664. Within “TikTok LIVE” is another feature called “LIVE Gifts” for “viewers to react
 2 and show their appreciation for [] LIVE content in real-time.⁷⁴⁷ TikTok then awards “Diamonds”
 3 to LIVE creators based on the popularity of their content. “One way for creators to collect
 4 “Diamonds is to receive Gifts from viewers on [their] LIVE videos.” Creators awarded “Diamonds”
 5 “may obtain a Reward Payment in money or in virtual items.”⁷⁴⁸

6 665. ByteDance’s design of the “LIVE Gifts” and “Diamonds” rewards greatly increases
 7 the risk of adult predators targeting adolescent users for sexual exploitation, sextortion, and CSAM.
 8 According to Leah Plunket, an assistant dean at Harvard Law School, “TikTok LIVE” is “the digital
 9 equivalent of going down the street to a strip club filled with 15-year-olds.”⁷⁴⁹ “Livestreams on
 10 [TikTok] are a popular place for men to lurk and for young girls—enticed by money and gifts—to
 11 perform sexually suggestive acts.”⁷⁵⁰

12 666. Another of TikTok’s defective features enables predators to communicate privately
 13 with youth, with virtually no evidence of what was exchanged. The private messaging or “Direct
 14 messaging” feature allows a user to send a direct private message to another user. Predators use
 15 these messages to identify children willing to respond to a stranger’s message and then prey on the
 16 child’s vulnerabilities.

17 667. Although Tiktok’s features enable predators, TikTok does not have any feature to
 18 allow users to specifically report CSAM.⁷⁵¹

19 668. Federal law mandates that ByteDance reports suspected CSAM to NCEMC under
 20 18 U.S.C. § 2258A. To limit and avoid its reporting requirements under federal law, ByteDance
 21

22 ⁷⁴⁷ *LIVE Gifts on TikTok*, TikTok, <https://support.tiktok.com/en/live-gifts-wallet/tiktok-live/live-gifts-on-tiktok>.

23 ⁷⁴⁸ *LIVE Gifts on TikTok*, TikTok, <https://support.tiktok.com/en/live-gifts-wallet/tiktok-live/live-gifts-on-tiktok>.

24 ⁷⁴⁹ Alexandra Levine, *How TikTok Live Became a Strip Club Filled with 15 Year Olds*, Forbes
 25 (Apr. 27, 2022), <https://www.forbes.com/sites/alexandralevine/2022/04/27/how-tiktok-live-became-a-strip-club-filled-with-15-year-olds/?sh=5d6cf08d62d7>.

26 ⁷⁵⁰ Alexandra S. Levine, *How TikTok LIVE Became ‘A Strip Club Filled with 15-Year Olds,’*
 27 Forbes, <https://www.forbes.com/sites/alexandralevine/2022/04/27/how-tiktok-live-became-a-strip-club-filled-with-15-year-olds/?sh=64c0447362d7>.

28 ⁷⁵¹ Canadian Centre for Child Protection, *Reviewing Child Sexual Abuse Material Reporting Functions on Popular Platforms*,
https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf.

1 purposely designed its products—which it knows are used by children, including children under
 2 13—not to incorporate modern CSAM detection technology. This technology would be free for
 3 ByteDance to implement within its product design.

4 669. Furthermore, in violation of 18 U.S.C. § 2258A, ByteDance knowingly fails to
 5 report massive amounts of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

6 670. ByteDance knowingly fails to take feasible, adequate, and readily available
 7 measures to remove these contraband materials from its product in a timely fashion.

8 671. ByteDance made approximately 596 reports to NCMEC in 2019 and 22,692 reports
 9 in 2020.⁷⁵² However, ByteDance failed to report materials, including materials depicting Plaintiffs,
 10 violating the reporting requirements of 18 U.S.C. § 2258A in 2019.

11 672. Users have reported “Post-in-Private” CSAM videos to TikTok, and ByteDance
 12 responded that no violations of its policy were found. One user searched for and contacted multiple
 13 TikTok employees to sound the alarm that CSAM was being created and shared within TikTok’s
 14 “Post-in-Private” accounts. This user did not receive a single response to her concerns.⁷⁵³

15 673. ByteDance nonetheless continues to make false representations that they will “take
 16 immediate action to remove content, terminate accounts, and report cases to NCMEC and law
 17 enforcement as appropriate.”⁷⁵⁴

18 674. ByteDance gains revenue for every daily user on TikTok in North America. Each
 19 user and their data are worth income, and ByteDance continues to benefit financially from predators
 20 who commit sexual abuse against children and/or share CSAM using ByteDance’s product.

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25 ⁷⁵² Community guidelines enforcement report, TikTok (2022),
<https://www.tiktok.com/transparency/en-us/community-guidelines-enforcement-2020-2/>.

26 ⁷⁵³ Gracelynn Wan, *These TikTok Accounts Are Hiding Child Sexual Abuse Material In Plain*
 Sight, Forbes (Nov. 14, 2022), <https://www.forbes.com/sites/alexandralevine/2022/11/11/tiktok-private-csam-child-sexual-abuse-material/?sh=290dbfa63ad9>

27 ⁷⁵⁴ *Protecting Against Exploitative Content*, TikTok, <https://newsroom.tiktok.com/en-us/protecting-against-exploitative-content>.

1 **5. ByteDance failed to adequately warn Plaintiffs about the harms its**
 2 **product causes or to provide instructions regarding safe use.**

3 675. Since TikTok's inception, ByteDance has failed to adequately warn young users
 4 about the physical and mental health risks its product poses. These risks include, but are not limited
 5 to, product abuse and addiction, sexual exploitation from adult users, dissociative behavior, damage
 6 to body image, social isolation, and a plethora of mental health disorders like body dysmorphia,
 7 eating disorders, anxiety, depression, insomnia, ADD/ADHD exacerbation, suicidal ideation, self-
 8 harm, suicide, and death.

9 676. ByteDance targets young users via advertising and marketing materials distributed
 10 throughout traditional as well as digital media, including other social media products. ByteDance
 11 fails to provide adequate warnings in advertising and marketing campaigns to potential adolescent
 12 consumers of the physical and mental harms associated with using TikTok.

13 677. ByteDance heavily advertises its product on YouTube and Snapchat, where it knows
 14 it can effectively reach younger users. In 2019, for example, 80 percent of TikTok's advertising
 15 spending was on Snapchat.⁷⁵⁵

16 678. One TikTok ad compiles viral videos featuring people of all ages and sets the video
 17 to the pandemic musical hit "Bored in the House," by a popular TikTok creator. The 15-second
 18 video, titled "It Starts On TikTok," notes, "if it's in culture, it starts on TikTok."⁷⁵⁶ Zhu highlighted
 19 the importance of the U.S. teen market to TikTok, admitting that in China, "teenage culture doesn't
 20 exist" because "teens are super busy in school studying for tests, so they don't have the time and
 21 luxury to play social media apps." On the other hand, teen culture in the United States is "a golden
 22 audience."⁷⁵⁷

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⁷⁵⁵ *TikTok – Snapchat's Biggest Advertiser – What's the Strategy*, Media Radar (Feb. 24, 2020),
<https://mediaradar.com/blog/tiktok-snapchat-advertising-strategy/>.

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⁷⁵⁶ *TikTok, It Starts on TikTok: Bored in the House*, YouTube (Sept. 9, 2020),
<https://www.youtube.com/watch?v=DWZCgkmclE>.

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⁷⁵⁷ Paul Mozur, *Chinese Tech Firms Forced to Choose Market: Home or Everywhere Else*, N.Y.
 28 Times (Aug. 9, 2016), <https://www.nytimes.com/2016/08/10/technology/china-homegrown-internet-companies-rest-of-the-world.html>.

1 679. Other advertisements ByteDance places on YouTube promote TikTok as a family-
 2 friendly product. For example, one commercial features parents impersonating their children,
 3 explaining that “parents roasting their kids is the best kind of family bonding.”⁷⁵⁸ Another TikTok
 4 ad asks content creators what TikTok means to them. Responses include “family,” “sharing special
 5 moments with my daughter,” and a featured appearance by well-known TikTok creator Addison
 6 Rae, who says TikTok represents “family and fun.”⁷⁵⁹

7 680. ByteDance released another TikTok ad, part of the “It Starts on TikTok” ad
 8 campaign, and scheduled it to release on the linear TV, digital media, digital out-of-home, radio
 9 and TikTok’s own social channels.⁷⁶⁰ The tagline for the campaign was “[l]oving all of you and the
 10 things you do. Celebrating you” and featured a series of viral clips of various cheerful scenes
 11 depicting people gathered with friends and family of ages.

12 681. ByteDance is also one of the biggest advertisers on Snapchat. In 2019, ByteDance
 13 accounted for 4.4% of Snapchat’s advertising revenue.⁷⁶¹ ByteDance knows that advertising on
 14 Snapchat is an effective way to reach a young audience. Snap claims that its Snapchat product
 15 reaches 90% of people aged 13-24 years old, and 75% of 13-34 year olds in the United States.

16 682. Despite its funny, cheerful ads featuring smiling families and funny images, TikTok,
 17 as designed, presents serious risks to young users on the platform, through its distinctive and
 18 manipulative product features, including a lack of adequate age and identity verification tools, as
 19 well as inadequate parental controls.

20 683. ByteDance fails to adequately warn young users of these risks beginning with the
 21 first stages of the product registration process. At account setup, TikTok contains no warning labels,
 22 banners, or conspicuous messaging to adequately inform adolescent users of product risks, potential

23 ⁷⁵⁸ *Family Impressions, Compilation*, TikTok’s Official YouTube Page,
 24 <https://www.youtube.com/watch?v=6EYzm25gW-s>.

25 ⁷⁵⁹ *TikTok Creators Share Their Thoughts About TikTok*, TikTok’s Official YouTube Page
<https://www.youtube.com/watch?v=KAvEGBv7HVM>.

26 ⁷⁶⁰ Todd Spangler, *TikTok Launches Biggest-Ever Ad Campaign as Its Fate Remains Cloudy*,
 Variety (Aug. 10, 2020), <https://variety.com/2020/digital/news/tiktok-advertising-brand-campaign-sale-bytedance-1234738607/>.

27 ⁷⁶¹ Robert Williams, *TikTok is the biggest advertiser on Snapchat, study says*, MarketingDive
 28 (March 16, 2020), <https://www.marketingdive.com/news/tiktok-is-the-biggest-advertiser-on-snapchat-study-says/574164/>.

1 dangers, and physical and mental harm associated with usage of the product. Instead, ByteDance
 2 allows underage users to easily create an account (or multiple accounts) and fully access the
 3 product.

4 684. ByteDance's lack of appropriate warnings continues once a child has TikTok.
 5 ByteDance does not suitably inform child users that their data will be tracked, used to help build a
 6 unique algorithmic profile, and potentially sold to TikTok's advertising clients.

7 685. Alarmingly, ByteDance also does not adequately warn young users before
 8 facilitating adult connections and interactions that adult predators use its product.

9 686. ByteDance's failure to adequately warn young users about the risks of the product
 10 continues even if they display signs of addiction or habitual and compulsive use. Besides the
 11 disabled by default "Take a Break" reminder, ByteDance does not warn users when their screen
 12 time reaches harmful levels or when young users are accessing the product on a habitual basis.

13 687. Not only does ByteDance fail to adequately warn users about the risks associated
 14 with TikTok, but it also does not provide sufficient instructions on how children can safely use the
 15 product. A reasonable and responsible company would instruct children on best practices and safety
 16 protocols when using a product known to contain danger and health risks.

17 688. ByteDance, however, fails to adequately warn users that:

- 18 a. sexual predators use its product to produce and distribute CSAM;
- 19 b. adult predators targeting children for sexual exploitation, sextortion, and
 CSAM are prevalent on ByteDance's product;
- 20 c. usage of its product can increase the risk of children being targeted and
 sexually exploited by adult predators;
- 21 d. usage of its product can increase risky and uninhibited behavior in children,
 making them easier targets to adult predators for sexual exploitation,
 sextortion, and CSAM; and,
- 22 e. end-to-end encryption and/or the ephemeral nature of ByteDance's direct
 messaging product prevents the reporting of CSAM.

1 689. ByteDance failed to adequately warn parents about all of the foregoing dangers and
 2 harms. ByteDance's failure to adequately warn and instruct as set forth herein has proximately
 3 caused significant harm to Plaintiffs' mental and physical well-being, and other injuries and harms
 4 as set forth herein.

5 **E. FACTUAL ALLEGATIONS AS TO GOOGLE**

6 690. Eric Schmidt, the former CEO of Google and more recently, Alphabet, YouTube's
 7 corporate parent, recently acknowledged the powerful, and purposeful, addictive effect of social
 8 media. Social media products are about "maximizing revenue," Mr. Schmidt said, and the best way
 9 to maximize revenue is to "maximize engagement." As Mr. Schmidt continued, in pursuit of their
 10 goal of maximizing engagement to increase revenues, social media products "play into the
 11 addiction capabilities of every human."⁷⁶²

12 691. Google's YouTube product is no exception. It includes specific, carefully calibrated
 13 features that are known to exploit the mental processes of its users to keep them engaged for as
 14 long, as frequently, and as intensely as possible. Google knows that children and teenagers who
 15 flock in droves to its YouTube product are particularly susceptible to these features. The impact of
 16 YouTube's addictive power on American youth has been devastating.

17 **1. Background and overview of YouTube.**

18 692. YouTube is a social media product that allows users to post and consume countless
 19 hours of video content about virtually any topic imaginable. YouTube is available without any age
 20 verification feature or adequate parental controls, and comes pre-installed in many Smart-TVs,
 21 mobile devices, various digital media players like Roku, and video game consoles like PlayStation,
 22 Wii, X-box and Nintendo.

23 693. YouTube allows users to search for specific video content. It also employs a
 24 powerful algorithm that exploits detailed user information to target each individual user with hours
 25 upon hours of videos recommended by YouTube.

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⁷⁶² Issie Lapowsky, *Eric Schmidt: Social Media Companies 'Maximize Outrage' for Revenue*,
 Protocol (Jan. 6, 2022), <https://www.protocol.com/bulletins/eric-schmidt-youtube-criticism>.

1 694. A group of design experts and computer scientists created YouTube and launched
 2 the product for public use in December 2005.

3 695. Technology behemoth Google quickly recognized YouTube's huge profit potential.
 4 In 2006, just a year after YouTube's launch, Google acquired YouTube for more than \$1.65 billion
 5 in Google stock. At the time, Google's acquisition of YouTube was one of the largest-ever tech
 6 acquisitions.

7 696. YouTube primarily generates revenue by selling advertising. The more people who
 8 use YouTube and spend time on the site, the more ads YouTube can sell.⁷⁶³ The ads are then
 9 embedded or placed within the endless stream of videos recommended to the user by YouTube's
 10 algorithm.

11 697. By 2012, YouTube users were watching close to four billion hours of video every
 12 month. Yet, the average YouTube user spent just fifteen minutes daily engaged with the product.⁷⁶⁴
 13 Users "were coming to YouTube when they knew what they were coming to look for."⁷⁶⁵ They
 14 employed the product to identify and watch certain video content, and then they were done.

15 698. To drive greater revenue, "YouTube . . . set a company-wide objective to reach one
 16 billion hours of viewing a day[.]"⁷⁶⁶

17 699. As Susan Wojcicki, YouTube's CEO explained, the goal of a "billion hours of daily
 18 watch time gave our tech people a North Star."⁷⁶⁷

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 22 ⁷⁶³ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

23 ⁷⁶⁴ John Seabrook, *Streaming Dreams: YouTube Turns Pro*, New Yorker (Jan. 16, 2012), <https://www.newyorker.com/magazine/2012/01/16/streaming-dreams>.

24 ⁷⁶⁵ Casey Newton, *How YouTube Perfected the Feed*, Verge (Aug. 30, 2017), <https://www.theverge.com/2017/8/30/16222850/youtube-google-brain-algorithm-video-recommendation-personalized-feed>.

25 ⁷⁶⁶Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

27 ⁷⁶⁷ Mark Bergen, *YouTubers Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

1 700. Google decided that “the best way to keep eyes on the site” was to introduce a
 2 feature that would “[recommend] videos, [that were playing] or after one was finished.”⁷⁶⁸

3 701. That new product feature uses a recommendation algorithm to identify and push
 4 additional videos to users, which YouTube plays automatically, through a feature called “autoplay.”
 5 Autoplay begins the next video as soon as the previous video ends, creating a constant stream of
 6 content.

7 702. Google’s design changes worked. Today, YouTube “has over 2 billion monthly
 8 logged-in users.”⁷⁶⁹ And that 2 billion figure does not capture all product usage because YouTube,
 9 by design, allows users to consume videos without logging in or registering an account.

10 **2. Google intentionally encourages youth to use YouTube and then
 11 leverages that use to increase revenue.**

12 703. Google knows that children and teenagers use YouTube in greater proportions than
 13 older demographics. YouTube now ranks as the world’s most popular social media product for
 14 minors. According to one recent report, more than 95% of children ages 13-17 have used
 15 YouTube.⁷⁷⁰ Nearly 20% of U.S. teens use YouTube almost constantly.⁷⁷¹ Among U.S. teenagers
 16 who regularly use social media, 32% “wouldn’t want to live without” YouTube.⁷⁷²

17 704. Rather than ensuring minors are not inappropriately or excessively using YouTube,
 18 Google has sought to dominate their attention.

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⁷⁶⁸ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

22 ⁷⁶⁹ *YouTube for Press*, YouTube, <https://blog.youtube/press/>.

23 ⁷⁷⁰ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
 24 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022>.

25 ⁷⁷¹ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
 26 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022>.

27 ⁷⁷² Victoria Rideout et al., *Common Sense Census: Media Use by Tweens and Teens, 2021* at 31,
 28 Common Sense Media (2022), https://www.commonSenseMedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

1 705. YouTube's age controls are defective (or non-existent, since registration is not
 2 required). In addition, Google has developed and marketed a version of YouTube, YouTube Kids,
 3 explicitly targeted at children under 13. Google developed this product to encourage early—and
 4 therefore lasting—adoption of YouTube by children.

5 706. Google knows that a robust and committed base of young users is key to maximizing
 6 advertising revenue. Indeed, it has aggressively touted its hold on child users to advertisers.

7 707. In 2014, for example, Google pitched its YouTube product to Hasbro, a popular toy
 8 manufacturer, and specifically boasted of the product's immense popularity among children, noting
 9 that it was "unanimously voted as the favorite website of kids 2-12" and that "93% of tweens" use
 10 the product.⁷⁷³

11 708. In 2015, Google gave a similar presentation to toy manufacturer Mattel, the maker
 12 of Barbie and other popular kids' toys, highlighting children's widespread use of YouTube to
 13 persuade Mattel to display digital ads on the site.⁷⁷⁴

14 709. The FTC has aptly summarized Google's pitch to advertisers concerning the value
 15 of its youth user base.⁷⁷⁵ For example, Google boasted that YouTube "is today's leader in reaching
 16 children age 6-11;" "the new 'Saturday Morning Cartoons';" "unanimously voted as the favorite
 17 website of kids 2-12;" "the #1 website regularly visited by kids;" and used by "93% of tweens."⁷⁷⁶

18 710. Many of YouTube's most-viewed videos are kid-focused, and the most subscribed
 19 and highest paid YouTubers are children. With over 12 billion views, "Baby Shark Dance," a video

21 ⁷⁷³ Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, *FTC v.*
Google LLC et al., No. 1-19-cv-02642-BAH, at 6 (D.D.C. Sept. 4, 2019) Dkt. #1-1.
https://www.ftc.gov/system/files/documents/cases/youtube_complaint_exhibits.pdf.

22 ⁷⁷⁴ Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, *FTC v.*
Google LLC et al., No. 1-19-cv-02642-BAH, at 3 (D.D.C. Sept. 4, 2019) Dkt. #1-1.
https://www.ftc.gov/system/files/documents/cases/youtube_complaint_exhibits.pdf.

23 ⁷⁷⁵ *Google and YouTube Will Pay Record \$170 Million for Alleged Violations of Children's Privacy Law*, FTC (Sept. 4, 2019),<https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>. ("YouTube touted its popularity with children to prospective corporate clients", said FTC Chairman Joe Simons.)

24 ⁷⁷⁶ Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, *FTC v.*
Google LLC et al., No. 1-19-cv-02642-BAH, at 3,12, and 6-7 (D.D.C. Sept. 4, 2019) Dkt. #1-1.
https://www.ftc.gov/system/files/documents/cases/youtube_complaint_exhibits.pdf.

1 aimed at toddlers, is the most viewed video in the history of YouTube— and it and five other child-
 2 focused videos make up the top ten YouTube videos of all time.⁷⁷⁷ Child creators also dominate
 3 top-earner lists year after year. Ryan Kaji of Ryan’s World (f/k/a Ryan ToysReview), a channel
 4 featuring now 12-year-old Ryan Kaji unboxing children’s toys, has been among YouTube’s Top
 5 10 most-subscribed channels in the United States since 2016.⁷⁷⁸ Ryan started Ryan’s World in 2015
 6 when he was only 3. By 2017, his videos had over 8 billion views, and by 2018, he was the highest-
 7 earning YouTuber in the world.⁷⁷⁹

8 711. As with other defendants, once Google lures children in, it then mines them (and all
 9 other users) for a breathtaking amount of data. Google’s current privacy policy, which includes the
 10 YouTube product’s data collection, reveals how sweeping this data collection is. It states that
 11 Google tracks:

- 12 a. “information about the apps, browsers, and devices you use
 13 to access Google services . . . includ[ing] unique
 14 identifiers, browser type and settings, device type and
 15 settings, operating system, mobile network information
 16 including carrier name and phone number, and application
 version number. We also collect information about the
 interaction of your apps, browsers, and devices with our
 services, including IP address, crash reports, system activity,
 and the date, time, and referrer URL of your request.”
- 17 b. “your activity in our services . . . includ[ing] terms you
 18 search for[;] videos you watch[;] views and interactions
 19 with content and ads[;] voice and audio information[;]
 purchase activity[;] people with whom you communicate or
 share content[;] activity on third-party sites and apps that

21 ⁷⁷⁷ Most Viewed Videos of All Time • (Over 700M views) - YouTube.

https://www.youtube.com/playlist?list=PLirAqAtl_h2r5g8xGajEwdXd3x1sZh8hC

22 ⁷⁷⁸ Madeline Berg, *The Highest-Paid YouTube Stars of 2019: The Kids Are Killing It*, Forbes
 23 (Dec. 18, 2019), <https://www.forbes.com/sites/maddieberg/2019/12/18/the-highest-paid-youtube-stars-of-2019-the-kids-are-killing-it/?sh=4c3df9a438cd>; Madeline Berg, *The Highest-Paid YouTube Stars 2017: Gamer DanTDM Takes The Crown With \$16.5 Million*, Forbes (Dec. 7, 2017), <https://www.forbes.com/sites/maddieberg/2017/12/07/the-highest-paid-youtube-stars-2017-gamer-dantdm-takes-the-crown-with-16-5-million/?sh=72de79413979>

25 ⁷⁷⁹ *Gamer DanTDM Takes The Crown With \$16.5 Million*, Forbes (Dec. 7, 2017),
 26 <https://www.forbes.com/sites/maddieberg/2017/12/07/the-highest-paid-youtube-stars-2017-gamer-dantdm-takes-the-crown-with-16-5-million/?sh=72de79413979>; Natalie Robehmed &
 27 Madeline Berg, *Highest-Paid YouTube Stars 2018: Markiplier, Jake Paul, PewDiePie And More*, Forbes (Dec. 3, 2018), <https://www.forbes.com/sites/natalierobehmed/2018/12/03/highest-paid-youtube-stars-2018-markiplier-jake-paul-pewdiepie-and-more/?sh=7d909c3f909a>.

1 use our services[;] and Chrome browsing history you've
 2 synced with your Google Account."

3 c. "Your location information [including] GPS and other
 4 sensor data from your device[;] IP address[;] activity on
 5 Google services, such as your searches and places you label
 6 like home or work[;] [and] information about things near
 7 your device, such as Wi-Fi access points, cell towers, and
 8 Bluetooth-enabled devices;"⁷⁸⁰

9 712. Google's privacy policy also indicates that, like other Defendants, it purchases data
 10 about its users from data brokers, which it euphemistically refers to as "trusted partners" or
 11 "marketing partners."⁷⁸¹

12 713. As with other Defendants, YouTube's collection and analysis of user data allows it
 13 to assemble virtual dossiers on its users, covering hundreds if not thousands of user-specific data
 14 segments. This, in turn, allows advertisers to micro-target marketing and advertising dollars to very
 15 specific categories of users, who can be segregated into pools or lists using YouTube's data
 16 segments. Advertisers purchase ad real estate space on users' feeds, which allow them to place the
 17 right ads in front of these micro-targeted segments of users--including children, both in the main
 18 YouTube frame and in the YouTube Kids product. Only a fraction of these data segments come
 19 from content knowingly designated by users for publication or explicitly provided by users in their
 20 account profiles. Instead, many of these data segments are collected by YouTube through
 21 surveillance of each user's activity while using the product and even when logged off the product.⁷⁸²

22 714. As with Meta, Google's data policy does not inform users, and did not inform
 23 Plaintiffs, that the more time individuals spend using YouTube, the more ads Google can deliver
 24 and the more money it can make, or that the more time users spend on YouTube, the more YouTube
 25 learns about them, and the more it can sell to advertisers the ability to micro-target highly
 26 personalized ads.

27 ⁷⁸⁰ Information Google Collects. <https://policies.google.com/privacy?hl=en#infocollect>.

28 ⁷⁸¹ Information Google Collects. <https://policies.google.com/privacy?hl=en#infocollect>.

29 ⁷⁸² About Targeting for Video Campaigns, Google,
<https://support.google.com/youtube/answer/2454017?hl=en>.

1 715. Google's secret virtual dossiers on its users, including child users, fuel its
 2 algorithms. The company relies on this data—including data plainly reflecting use by children—to
 3 train its algorithms. A Google engineer explained in a 2014 presentation:

4 What do I mean by a training example? It's a single-user
 5 experience. On YouTube, perhaps it's that one [Thomas the Tank
 6 Engine] webpage my son saw six months ago, along with all the
 7 recommendations that we showed him. We also record the outcome
 to know whether the recommendations we made are good or
 whether they're bad. That's a single training exercise. On a large
 property, you can easily get into hundreds of billions of these.⁷⁸³

8 The engineer illustrated this with a slide, excerpted below, presenting how algorithmic analysis
 9 both structured the format of recommendations of Thomas the Tank Engine YouTube videos and
 10 provided information to inform algorithmic training through user engagement:



27 783 Alex Woodie, *Inside Sibyl, Google's Massively Parallel Machine Learning Platform*,
 28 *Datanami* (Jul. 17, 2014) <https://www.datanami.com/2014/07/17/inside-sibyl-googles-massively-parallel-machine-learning-platform/>.

1 716. Through these and other efforts, YouTube has delivered massive amounts of
 2 advertising revenue to Google. In 2021 alone, YouTube generated about \$29 billion in revenue
 3 selling ads on its site.⁷⁸⁴

4 **3. Google intentionally designed product features to addict children and**
adolescents.

6 717. Google devised and continues to employ interrelated product features to increase
 7 usage and maximize engagement by teenagers and children. Simply put, YouTube's product
 8 features are engineered to induce excessive use and to addict adolescents and children to the
 9 product.

10 a. **Google's age-verification measures and parental controls are**
defective.

12 718. Google's strategy to entrench minor users begins with access. The company
 13 purports to impose a minimum age requirement and claims to verify the age of its users. But those
 14 features are defective, as they do little to prevent children and teenagers from using the product.

15 719. Anyone with access to the Internet, regardless of age, can use YouTube and access
 16 every video available through the product without registering an account or verifying their age.
 17 YouTube does not even ask for age information before allowing users to consume YouTube videos.

18 720. A user needs an account to post content or like (or comment) on videos. But to get
 19 one, a user needs only enter a valid email address and a birthday. Google does nothing to verify the
 20 birthday entered by users in the U.S.—and the product freely permits users to change their birthdays
 21 in their account settings after creating an account.

22 721. YouTube's defective age verification feature means that Google fails to protect
 23 children from other product features discussed below that Google knows to be harmful to kids.

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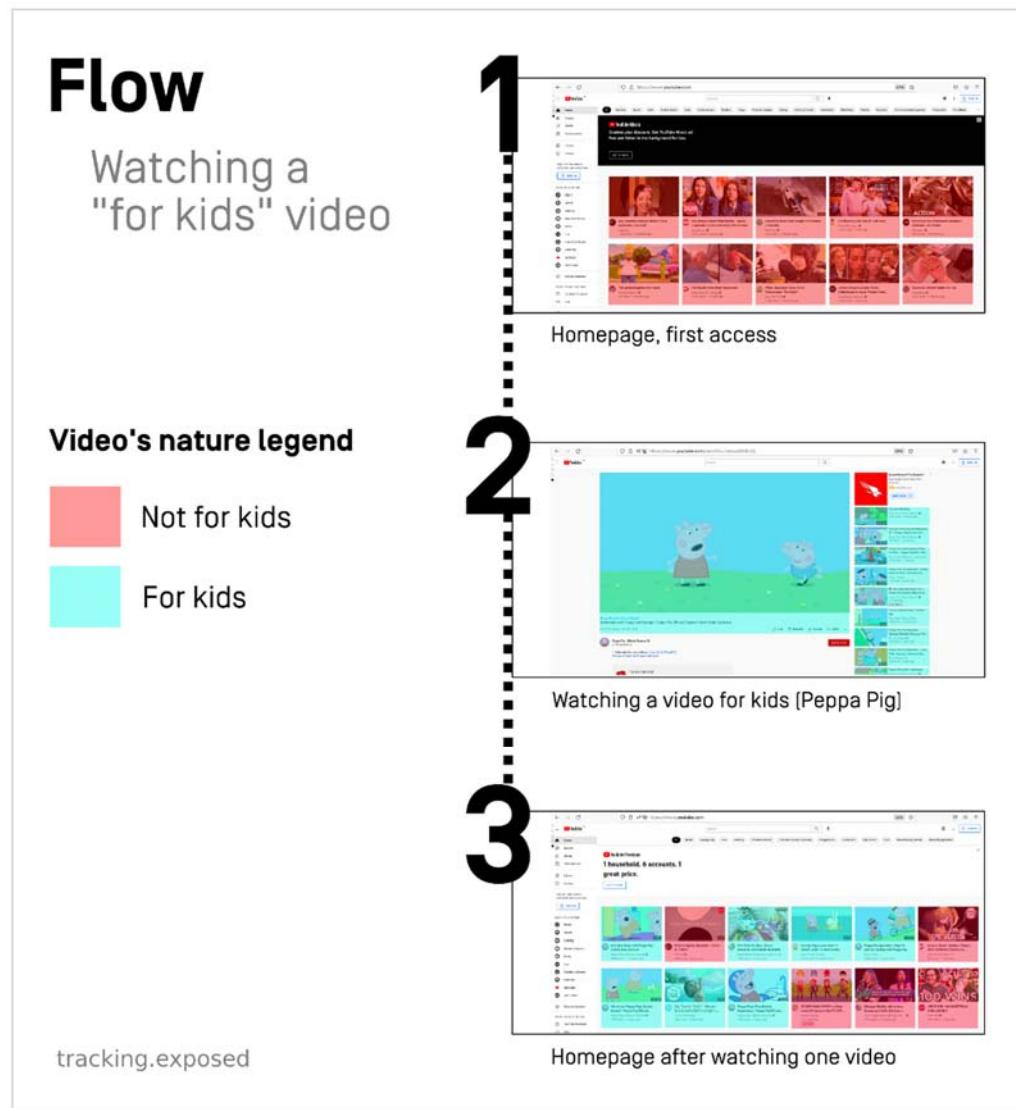
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27 ⁷⁸⁴ Andrew Hutchinson, *YouTube Generated \$28.8 Billion in Ad Revenue in 2021*, Social Media
 28 Today (Feb. 2, 2021), <https://www.socialmediatoday.com/news/youtube-generated-288-billion-in-ad-revenue-in-2021-fueling-the-creator/618208/>; Jennifer Elias, *YouTube Is a Media Juggernaut That Could Soon Equal Netflix in Revenue*, CNBC (Apr. 27, 2021), <https://www.cnbc.com/2021/04/27/youtube-could-soon-equal-netflix-in-revenue.html>.

1 722. For example, for users 13-17, Google claims to disable YouTube's autoplay feature.
 2 However, that measure is virtually meaningless because children can use YouTube without logging
 3 into any account or by logging in but misreporting their age.

4 723. Even if children use YouTube Kids, that product contains many of the same defects
 5 YouTube does, including a harmful, manipulative algorithm, as alleged below.

6 724. Google cannot credibly claim that it is unaware of the fact and extent of youth usage
 7 of YouTube. Google's system can "identify children as being much younger than 13."⁷⁸⁵ According
 8 to Tracking Exposed, YouTube can rapidly identify a user as a child.⁷⁸⁶



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 27 ⁷⁸⁵ Tracking Exposed, Report: Non-Logged-In Children Using YouTube at 6 (Apr. 2022),
<https://tracking.exposed/pdf/youtube-non-logged-kids-03July2022.pdf>.

28 ⁷⁸⁶ Tracking Exposed, Report: Non-Logged-In Children Using YouTube at 15, 18 (Apr. 2022),
<https://tracking.exposed/pdf/youtube-non-logged-kids-03July2022.pdf>.

1 725. Google engineers have publicly admitted YouTube's algorithm tracks user age. As
 2 Google engineers outlined in a 2016 paper on YouTube's recommendation system, "[d]emographic
 3 features are important for providing priors so that the recommendations behave reasonably for new
 4 users. The user's geographic region and device are embedded and concatenated. Simple binary and
 5 continuous features such as the user's gender, logged-in state and age are input directly into the
 6 network as real values normalized to [0; 1]."⁷⁸⁷

7 726. The Tracking Exposed Report indicated that there was "strong evidence" that
 8 Google's systems continue to refine and develop a more precise estimate for under 18 users, but
 9 the product does not "redirect them to YouTube Kids."⁷⁸⁸

10 b. **YouTube is defectively designed to inundate users with features**
 11 **that use intermittent variable rewards and reciprocity.**

12 727. Google uses a series of interrelated design features that exploit known mental
 13 processes to induce YouTube's users to use the product more frequently, for more extended periods,
 14 and with more intensity (i.e., providing more comments and likes). Google knows children and
 15 adolescents, whose brains are still developing, are particularly susceptible to these addictive
 16 features.

17 728. Google designed its product so that when children and teenagers use it, they are
 18 inundated with interface design features specifically designed to dominate their attention and
 19 encourage excessive use. Every aspect of how YouTube presents the format of a given page with a
 20 video is structured to ensure unimpeded viewing of the videos, alongside download, like, and share
 21 buttons, plus recommendations for more videos to watch. The organization of these features is
 22 carefully calibrated to adjust to the space constraints of a user's device, such that minimal effort is
 23 needed to watch a video unimpeded. YouTube even has an ambient mode that uses dynamic color

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 26 ⁷⁸⁷ Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*, Google (2016),
 27 <https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf>.

28 ⁷⁸⁸ Tracking Exposed, Report: Non-Logged-In Children Using YouTube at 6, 19 (Apr. 2022),
 29 <https://tracking.exposed/pdf/youtube-non-logged-kids-03July2022.pdf>.

1 sampling so that the YouTube product adapts to the video being watched and the user is not
 2 distracted by the video's borders.⁷⁸⁹

3 729. Like the other Defendants, Google has designed YouTube with features that exploit
 4 neuropsychology to maximize the time users (including children) spend using the product.

5 730. IVR features, such as notifications and likes, compel YouTube content creators and
 6 consumers, particularly children, to use the product habitually and excessively. For example, in
 7 order to create and upload content to YouTube, a user under 13 may submit a fictitious birthdate in
 8 order to gain access to posting privileges. Once the young user has a logged-in account, they are
 9 capable of receiving notifications and likes. For example, the logged in user can subscribe to
 10 various YouTube channels, which in turn will send them notifications from various channels they
 11 follow. Similarly, young content creators who upload videos to YouTube are able to track the likes
 12 received by the video. These features psychologically reward creators who upload videos to
 13 YouTube. As explained above, receiving a "Like" shows others' approval and activates the brain's
 14 reward region.⁷⁹⁰ Thus, users' ability to like content encourages creators to use the product
 15 compulsively, seeking additional pleasurable experiences.

16 731. Another YouTube defect is the design Google engineers deploy to induce "flow"
 17 state among users, which as described above is dangerous to children because it induces excessive
 18 use and poses a risk of addiction, compulsive use, and sleep deprivation.

19 732. YouTube uses two design features that induce flow state. The first is its panel of
 20 recommended videos. YouTube recommends videos both on the home page and on each video page
 21 in the "Up Next" panel.⁷⁹¹ This panel pushes an endless stream of videos that YouTube's algorithm
 22 selects and "suggests" to keep users watching by teasing a pipeline of upcoming content.

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25 ⁷⁸⁹ YouTube rolling out black dark theme, 'Ambient Mode,' and other video player updates (Oct.
 24, 2022). <https://9to5google.com/2022/10/24/youtube-ambient-mode/>.

26 ⁷⁹⁰ See, e.g., Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer
 27 Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psych. Sci. 1027–35 (July
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>.

28 ⁷⁹¹ Recommended Videos, YouTube, [https://www.youtube.com/howyoutubeworks/product-
 features/recommendations/](https://www.youtube.com/howyoutubeworks/product-

 features/recommendations/).

1 733. The second feature is autoplay, which complements the Up Next panel and
 2 seamlessly takes users through the list of upcoming videos without users having to affirmatively
 3 click on or search for other videos. This constant video stream—comprised of videos recommended
 4 by YouTube’s algorithm—is the primary way Google increases the time users spend using its
 5 product. This endless video succession induces users to enter a flow state of consumption, which
 6 is particularly dangerous for children.

7 734. In an April 2021 letter to YouTube CEO Susan Wojcicki, the House Committee on
 8 Oversight and Reform criticized the autoplay feature:

9 This places the onus on the child to stop their viewing activity, rather
 10 than providing a natural break or end point. Without that natural
 stopping point, children are likely to continue watching for long
 periods of time.⁷⁹²

11 735. This defect is particularly acute for Google’s recently launched YouTube Shorts.
 12 YouTube Shorts enables users to create short videos up to sixty seconds in length, in a full-screen
 13 format popularized by TikTok and copied by Instagram Reels. As in Reels and TikTok, Shorts are
 14 presented in an algorithmically generated feed; users can watch new videos by swiping up on their
 15 smartphones. Instead of presenting videos chronologically, they are organized in a manner to drive
 16 the most watch time, as dictated by the algorithm. Indeed, Google hired TikTok’s North American
 17 head, Kevin Ferguson, and other TikTok engineers to develop YouTube Shorts.⁷⁹³ And much like
 18 those other products, the ability to scroll continuously through YouTube Shorts content induces a
 19 “flow-state,” distorting users’ sense of time and facilitating extended use.

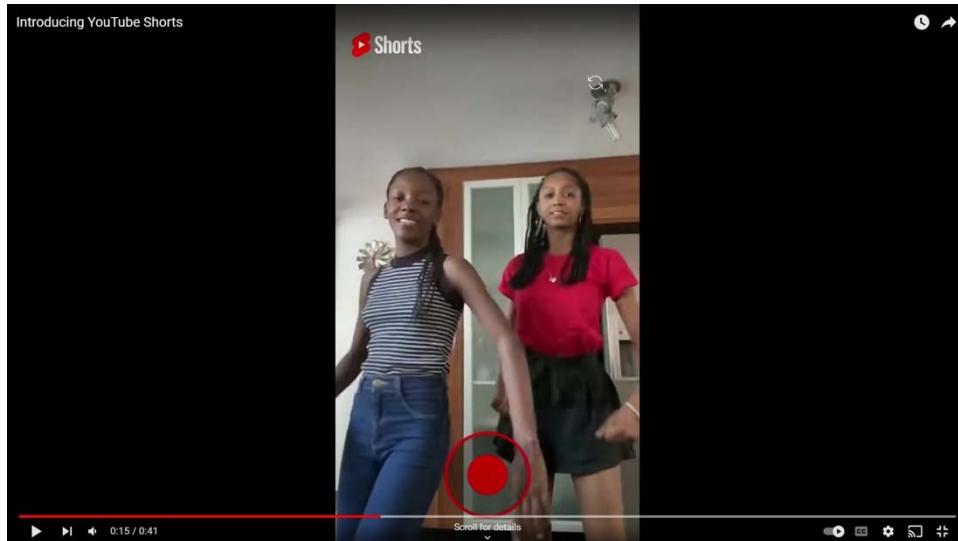
20 736. An important target audience for YouTube Shorts is children. For example,
 21 YouTube Shorts features content, such as child “influencers,” that appeals to children. YouTube
 22 Shorts also contains similar defects to other Defendants’ short form products, including the ability
 23 to scroll continuously through YouTube Shorts, inducing a “flow-state” that distorts users’ sense

25 ⁷⁹² Letter from Rep. Raja Krishnamoorthi, Chairman, Subcomm. on Economic and Consumer
 26 Policy, to Susan Wojcicki, CEO, YouTube (Apr. 6, 2021),
<https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2021-04-06.RK%20to%20Wojcicki-YouTube%20re%20YouTube%20Kids%20Content.pdf>,

27 ⁷⁹³ Richard Nievea, *In the Age of TikTok, YouTube Shorts Is a Platform in Limbo*, Forbes (Dec. 20,
 28 2022), <https://www.forbes.com/sites/richardnievea/2022/12/20/youtube-shorts-monetization-multiformat/>.

1 of time and facilitates extended use, and dangerous exploitation of “social comparison” techniques
 2 by promoting misleadingly idealized portrayals from influencers and others who are rewarded for
 3 posting popular material.

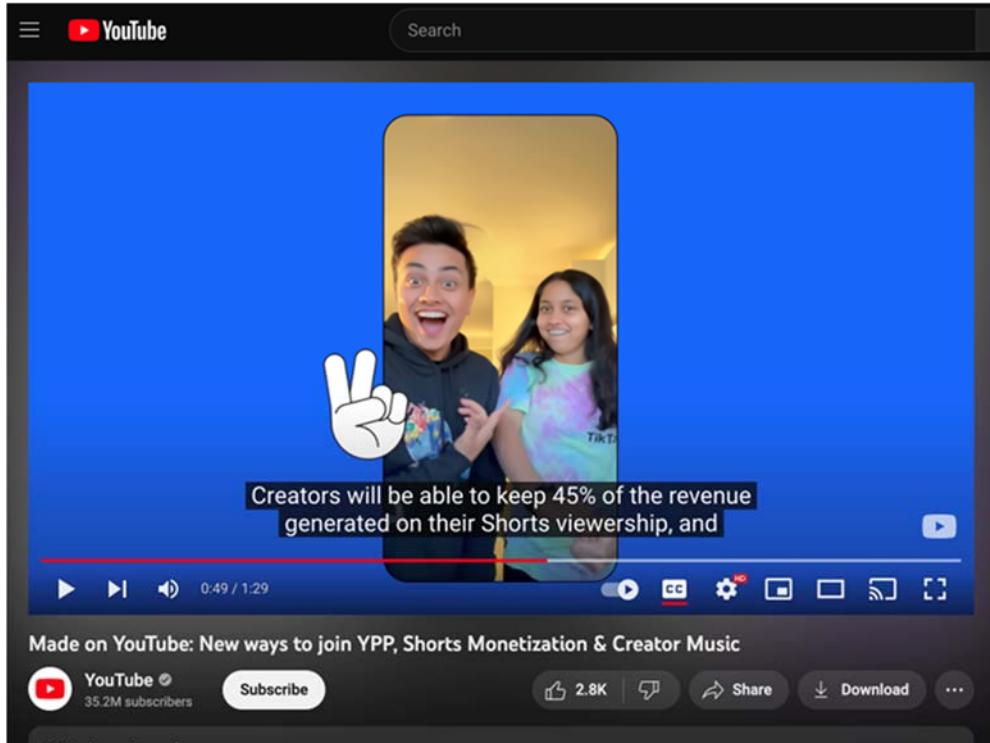
4 737. Almost immediately upon launch, Google began marketing YouTube Shorts to
 5 children. For example, Google launched an advertisement featuring images of children and
 6 teenagers (like in the screenshot below) engaging with the YouTube Shorts product.



7 738. Similarly, another advertisement for Shorts explains how creators on YouTube can
 8 keep revenue generated by their Shorts viewership, while an image of a video creator young enough
 9 to be in braces appears on screen.⁷⁹⁴
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⁷⁹⁴ Made on YouTube: New ways to join YPP, Shorts Monetization & Creator Music.
<https://www.youtube.com/watch?v=h6TrvCV3NdU>.



13 739. Shorts is one of YouTube's interrelated design features that exploit known mental
 14 processes to induce YouTube users to use the product more frequently, for more extended periods,
 15 and with more intensity (i.e., providing more comments and likes). Not surprisingly, given its
 16 copycat origin, the defects in Shorts replicate the defects in TikTok and Instagram Reels, discussed
 17 above. Google knows or should have known that children, whose brains are still developing, are
 18 particularly susceptible to such addictive features.

19 740. YouTube has monetized users' susceptibility to IVR by allowing creators who
 20 obtain more than a thousand subscribers with four-thousand valid public watch hours to qualify for
 21 the YouTube Partner Program. Once a creator obtains this elite status, they are rewarded with
 22 "Super Chat" and "Super Stickers"—special images or distinct messages that other users can
 23 purchase and place on a creator's channel.⁷⁹⁵ Paid messages, including the amount donated, are
 24 visible to all users. And the more a user pays for these promotions, the more prominent and longer
 25 the image is displayed. Both features are intended to allow a user to show support for, or connect
 26 with, their favorite YouTube creators. Similar to the "Likes" feature, this paid support activates the

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⁷⁹⁵ YouTube Partner Program: How to Make Money on YouTube,
https://www.youtube.com/intl/en_us/creators/how-things-work/video-monetization/.

1 reward center of the content creator's brain and releases dopamine while the creator is generating
 2 revenue for YouTube.

3 c. **Google's algorithms are designed to maximize "watch time."**

4 741. Google engineers algorithms to recommend videos to YouTube users.

5 742. YouTube began building its' algorithms in 2008.⁷⁹⁶ Its goal was to maximize how
 6 long users spent watching YouTube videos.⁷⁹⁷

7 743. These algorithms select videos that populate the YouTube homepage, rank results
 8 in user searches, and push videos for viewers to watch through the "Up Next" feature.

9 744. YouTube designed its algorithms to manipulate users and induce them to use
 10 YouTube excessively.

11 745. A former YouTube engineer explained that when he designed YouTube's algorithm,
 12 YouTube wanted to optimize for one key metric: "watch time."⁷⁹⁸ The engineer elaborated that
 13 "[i]ncreasing users' watch time is good for YouTube's business model" because it increases
 14 advertising revenue.⁷⁹⁹

15 746. In 2012 the YouTube Head of Content Creator Communications, similarly
 16 explained: "When we suggest videos, we focus on those that increase the amount of time that the
 17 viewer will spend watching videos on YouTube, not only on the next view, but also successive
 18 views thereafter."⁸⁰⁰

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 21 ⁷⁹⁶ Cristos Goodrow, *On YouTube's Recommendation System*, YouTube (Sept. 15, 2021),
 22 <https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

23 ⁷⁹⁷ Ben Popken, *As Algorithms Take Over, YouTube's Recommendations Highlight a Human*
 24 *Problem*, NBC (Apr. 19, 2018), <https://www.nbcnews.com/tech/social-media/algorithms-take-over-youtube-s-recommendations-highlight-human-problem-n867596>.

25 ⁷⁹⁸ William Turton, *How YouTube's Algorithm Prioritizes Conspiracy Theories*, Vice (Mar. 5,
 26 2018), <https://www.vice.com/en/article/d3w9ja/how-youtubes-algorithm-prioritizes-conspiracy-theories>.

27 ⁷⁹⁹ Jesselyn Cook & Sebastian Murdock, *YouTube Is a Pedophile's Paradise*, Huffington Post
 28 (Mar. 20, 2020), https://www.huffpost.com/entry/youtube-pedophile-paradise_n_5e5d79d1c5b6732f50e6b4db.

29 ⁸⁰⁰ Eric Meyerson, *YouTube Now: Why We Focus on Watch Time*, YouTube (Aug. 10, 2012),
 30 <https://blog.youtube/news-and-events/youtube-now-why-we-focus-on-watch-time/>.

1 747. The current algorithm uses deep-learning neural networks, a type of software that
 2 returns outputs based on data fed into it.⁸⁰¹ The VP of Engineering at YouTube, explained that it is
 3 “constantly evolving, learning every day from over 80 billion pieces of information [Google] calls
 4 signals.”⁸⁰² Those signals include “watch and search history . . . , channel subscriptions, clicks,
 5 watchtime, survey responses, and sharing, likes, and dislikes.”⁸⁰³ They also include user
 6 demographic information like age and gender.⁸⁰⁴

7 748. Google’s algorithm also “uses data from your Google Account activity to influence
 8 your recommendations.”⁸⁰⁵

9 749. The algorithm “develops dynamically” to predict which posts will hold the user’s
 10 attention.⁸⁰⁶ That is, it can also determine which “signals” are more important to individual users.
 11 For example, if a user shares every video they watch, including those they rate low, the algorithm
 12 learns to discount the significance of the user’s shares when recommending content.⁸⁰⁷

13 750. Besides the algorithm’s self-learning capability, Google also consistently refines the
 14 algorithm, updating it “multiple times a month.”⁸⁰⁸

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 18 ⁸⁰¹ Alexis C. Madrigal, *How YouTube’s Algorithm Really Works*, Atlantic (Nov. 8, 2018),
<https://www.theatlantic.com/technology/archive/2018/11/how-youtubes-algorithm-really-works/575212/>; Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*, Google (2016), <https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf>.

20 ⁸⁰² Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
<https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

21 ⁸⁰³ Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
<https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

22 ⁸⁰⁴ Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*, Google (2016),
<https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf>.

23 ⁸⁰⁵ Manage Your Recommendations and Search Results, Google,
<https://support.google.com/youtube/answer/6342839?hl=en&co=GENIE.Platform%3DAndroid>.

25 ⁸⁰⁶ Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
<https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

26 ⁸⁰⁷ Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
<https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

27 ⁸⁰⁸ Nilay Patel, *YouTube Chief Product Officer Neal Mohan on The Algorithm, Monetization, and the Future for Creators*, Verge (Aug. 3, 2021), <https://www.theverge.com/22606296/youtube-shorts-fund-neal-mohan-decoder-interview>.

1 751. In 2017, the former technical lead for YouTube recommendations explained that
 2 “one of the key things [the algorithm] does is it’s able to generalize.”⁸⁰⁹ While older iterations
 3 “were pretty good at saying, here’s another [video] just like” ones the user had watched, by 2017,
 4 the algorithm could discern “patterns that are less obvious,” identifying “adjacent relationships” of
 5 “similar but not exactly the same” content.⁸¹⁰

6 752. Over time, the algorithm became increasingly successful in getting users to watch
 7 recommended content. By 2018, YouTube Chief Product Officer Neal Mohan said that the
 8 YouTube algorithm was responsible for more than 70% of users’ time using the product.⁸¹¹ That
 9 is, more than 70% of the time users spend on YouTube was from recommendations Google’s
 10 algorithm pushed to them rather than videos identified by users through independent searches.

11 753. The algorithm also keeps users watching for longer periods. For instance, Mohan
 12 explained that mobile device users watch for more than 60 minutes on average per session “because
 13 of what our recommendations engines are putting in front of [them].”⁸¹²

14 754. The algorithm is particularly effective at addicting teenagers to the product. In 2022,
 15 Pew Research Center found that “[a]bout three-quarters of teens visit YouTube daily, including
 16 19% who report using the site or app almost constantly.”⁸¹³

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21 ⁸⁰⁹ Casey Newton, *How YouTube Perfected the Feed*, Verge (Aug. 30, 2017),
<https://www.theverge.com/2017/8/30/16222850/youtube-google-brain-algorithm-video-recommendation-personalized-feed>.

22 ⁸¹⁰ Casey Newton, *How YouTube Perfected the Feed*, Verge (Aug. 30, 2017),
<https://www.theverge.com/2017/8/30/16222850/youtube-google-brain-algorithm-video-recommendation-personalized-feed>.

23 ⁸¹¹ Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*, CNET (Jan. 20, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

24 ⁸¹² Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*, CNET (Jan. 20, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>

25 ⁸¹³ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022>.

1 755. A software engineer explained that the algorithm is “an addiction engine.”⁸¹⁴ He
 2 raised concerns with YouTube staff, who said they had no intention to change the algorithms. After
 3 all, the engineer explained, the algorithm works as intended: “it makes a lot of money.”⁸¹⁵

4 756. Since users watch more than one billion hours of YouTube videos daily and
 5 approximately 70% of the time is spent on videos pushed to users by YouTube’s “recommendation
 6 engine,” Google’s algorithms are responsible for hundreds of millions of hours users spend
 7 watching videos on YouTube each day.⁸¹⁶

8 757. The videos pushed out to users by Google’s “recommendation engine” are more
 9 likely to be addictive and more likely to lead to harm. For example, “fear-inducing videos cause
 10 the brain to receive a small amount of dopamine,” which acts as a reward and creates a desire to do
 11 something over and over.⁸¹⁷ That dopaminergic response makes it more likely that a user will watch
 12 the harmful video, which the algorithm interprets as signaling interest and preference. Former
 13 Google engineers told the Wall Street Journal that “[t]he algorithm doesn’t seek out extreme
 14 videos . . . but looks for clips that data show are already drawing high traffic and keeping people
 15 on the site. Those videos often tend to be sensationalist.”⁸¹⁸ An investigation by *Bloomberg* put it
 16 simply: “In the race to one billion hours, a formula emerged: Outrage equals attention.”⁸¹⁹

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 18 ⁸¹⁴ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*,
 Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

19 ⁸¹⁵ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*,
 Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

20 ⁸¹⁶ See Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*,
 CNET (Jan. 10, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

21 ⁸¹⁷ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
 (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

22 ⁸¹⁸ *Why is YouTube Suggesting Extreme and Misleading Content* (2/7/2018),
<https://www.youtube.com/watch?v=7AjA3Df6i6o>; see also Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

23 ⁸¹⁹ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*,
 Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

1 758. Google's algorithm makes it more likely for children to encounter harmful content
 2 by pushing them down "rabbit holes," which "[lead] viewers to incrementally more extreme videos
 3 or topics, which . . . hook them in."⁸²⁰ For example, a user might "[w]atch clips about bicycling,
 4 and YouTube might suggest shocking bike race crashes."⁸²¹ In this way, the algorithm makes it
 5 more likely that youth will encounter content that is violent, sexual, or encourages self-harm,
 6 among other types of harmful content.

7 759. YouTube's "recommendation engine" creates a vicious cycle in its ruthless quest to
 8 grow view time. Users who get pushed down rabbit holes then become *models* for the algorithm.
 9 And the algorithm consequently emphasizes that harmful content, disproportionately pushing it to
 10 more users. That is, because Google designed the algorithm to "maximize engagement,"
 11 uncommonly engaged users become "models to be reproduced."⁸²² Thus, the algorithms will "favor
 12 the content of such users," which is often more extreme.⁸²³

13 760. The algorithm also makes extreme content less likely to get flagged or reported. As
 14 Guillaume Chaslot explained, the algorithm becomes "more efficient" over time "at recommending
 15 specific user-targeted content."⁸²⁴ And as the algorithm improves, "it will be able to more precisely
 16 predict who is interested in [harmful or extreme] content."⁸²⁵ So "problems with the algorithm
 17 become exponentially harder to notice, as [harmful] content is unlikely to be flagged or
 18 reported."⁸²⁶

19 820 Max Fisher & Amanda Taub, *On YouTube's Digital Playground, an Open Gate for*
 20 *Pedophiles*, NY Times (June 3, 2019),
<https://www.nytimes.com/2019/06/03/world/americas/youtube-pedophiles.html>.

21 821 Max Fisher & Amanda Taub, *On YouTube's Digital Playground, an Open Gate for*
 22 *Pedophiles*, NY Times (June 3, 2019),
<https://www.nytimes.com/2019/06/03/world/americas/youtube-pedophiles.html>.

23 822 Guillaume Chaslot, *The Toxic Potential of YouTube's Feedback Loop*, Wired (Jul. 13, 2019),
<https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

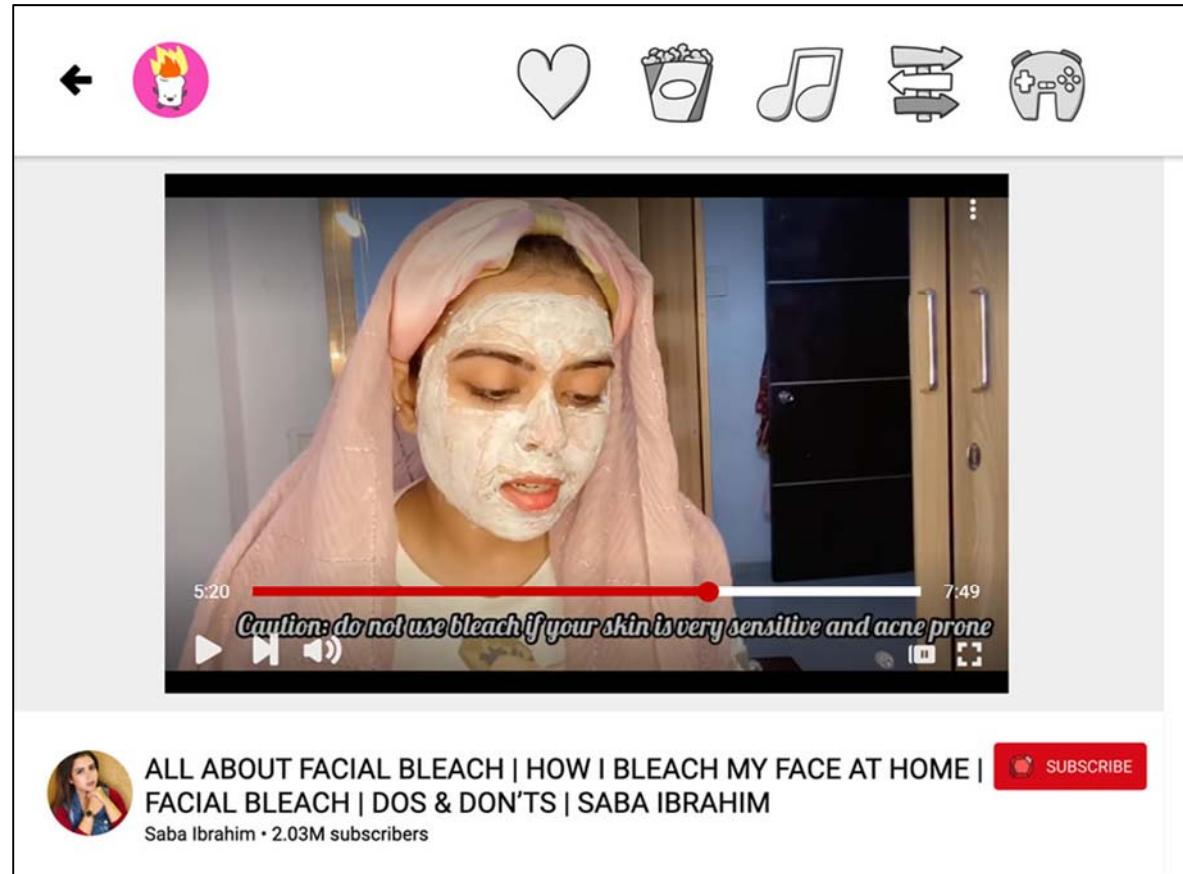
24 823 Guillaume Chaslot, *The Toxic Potential of YouTube's Feedback Loop*, Wired (Jul. 13, 2019),
<https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

25 824 Guillaume Chaslot, *The Toxic Potential of YouTube's Feedback Loop*, Wired (Jul. 13, 2019),
<https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

26 825 Guillaume Chaslot, *The Toxic Potential of YouTube's Feedback Loop*, Wired (Jul. 13, 2019),
<https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

27 826 Guillaume Chaslot, *The Toxic Potential of YouTube's Feedback Loop*, Wired (Jul. 13, 2019),
<https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

1 761. Even on YouTube Kids, Google's product designed for children under 13 years old,
 2 researchers from the Tech Transparency Project found that the product's algorithm fed children
 3 content related to drugs and guns, as well as beauty and diet tips that risked creating harmful body
 4 image issues. For example, the researchers found videos speaking positively about cocaine and
 5 crystal meth; instructing users, step-by-step, how to conceal a gun; explaining how to bleach one's
 6 face at home; and stressing the importance of burning calories.⁸²⁷



1 762. Amy Kloer, a campaign director with the child safety group Parents Together, spent
 2 an hour on her preschool-age child's YouTube Kids account and found videos "encouraging kids
 3 how to make their shirts sexier, a video in which a little boy pranks a girl over her weight, and a
 4 video in which an animated dog pulls objects out of an unconscious animated hippo's butt."⁸²⁸

25 827 *Guns, Drugs, and Skin Bleaching: YouTube Kids Poses Risks to Children*, Tech Transparency
 26 Project (May 5, 2022), <https://www.techtransparencyproject.org/articles/guns-drugs-and-skin-bleaching-youtube-kids-still-poses-risks-children>.

27 828 Rebecca Heilweil, *YouTube's Kids App Has a Rabbit Hole Problem*, Vox (May 12, 2021),
 28 <https://www.vox.com/recode/22412232/youtube-kids-autoplay>

1 Another parent recounted how YouTube Kids autoplay feature led her 6-year-old daughter to “an
 2 animated video that encouraged suicide.”⁸²⁹

3 763. These are not isolated examples. According to Pew Research Center, 46% of parents
 4 of children 11 or younger report that children encountered videos that were inappropriate for their
 5 age.⁸³⁰ And kids do not “choose” to encounter those inappropriate videos—YouTube’s algorithm—
 6 its “recommendation engine”—directs and pushes them there. Again, YouTube’s algorithm is
 7 responsible for 70% of the time users spend using the product.⁸³¹

8 764. Other reports have confirmed that YouTube’s algorithm pushes users towards
 9 harmful conduct. In 2021, the Mozilla Foundation studied 37,000 YouTube users, finding that 71%
 10 of all reported negative user experiences came from videos recommended to users by Google’s
 11 algorithm.⁸³² And users were 40% more likely to report a negative experience from a video
 12 recommended by YouTube’s algorithm than from one they searched for.⁸³³ Importantly, videos
 13 that elicited those negative experiences “acquired 70% more views per day than other videos
 14 watched by [study] volunteers.”⁸³⁴

15 765. Those defects combine to compel children and teenagers to overuse a product that
 16 feeds them harmful content, which in turn can adversely affect mental health. One 10-year-old girl
 17 in the Mozilla Foundation study who sought “dance videos, ended up encountering videos

19 ⁸²⁹ Rebecca Heilweil, *YouTube’s Kids App Has a Rabbit Hole Problem*, Vox (May 12, 2021),
<https://www.vox.com/recode/22412232/youtube-kids-autoplay>

20 ⁸³⁰ Brooke Auxier et al., *Parenting Children in The Age of Screens*, Pew Rsch. Ctr. (July 28,
 21 2020), <https://www.pewresearch.org/internet/2020/07/28/parental-views-about-youtube/>.

22 ⁸³¹ Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*, CNET
 (Jan. 20, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

23 ⁸³² YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation
 24 Algorithm, Mozilla Foundation 13 (July 2021),
https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

25 ⁸³³ YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation
 Algorithm, Mozilla Foundation at 3 (July 2021),
https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

26 ⁸³⁴ YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation
 Algorithm, Mozilla Foundation at 3 (July 2021),
https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

1 promoting extreme dieting.”⁸³⁵ Her mother explained that “[s]he is now restricting her eating and
 2 drinking.”⁸³⁶ Another middle-schooler compulsively consumed YouTube videos every day after
 3 she came home from school.⁸³⁷ Eventually, she became depressed and “got the idea to overdose
 4 online.”⁸³⁸ Three weeks later, she “down[ed] a bottle of Tylenol.” She landed in rehab for digital
 5 addiction due to her compulsive YouTube watching.⁸³⁹

6 766. Those experiences are not unique. Mental health experts have warned that YouTube
 7 is a growing source of anxiety and inappropriate sexual behavior among kids under 13 years old.
 8 Natasha Daniels, a child psychotherapist, described treating children between 8 and 10 years old,
 9 who were “found doing sexual things: oral sex, kissing and getting naked and acting out sexual
 10 poses.”⁸⁴⁰ This kind of behavior “usually indicates some sort of sexual abuse.”⁸⁴¹ Previously,
 11 Daniels would typically “find a child who has been molested himself or that an adult has been
 12
 13
 14
 15

16 835 YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation
 17 Algorithm, Mozilla Foundation at 13 (July 2021),
https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

18 836 YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation
 19 Algorithm, Mozilla Foundation at 13 (July 2021),
https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

20 837 Lesley McClurg, *After Compulsively Watching YouTube, Teenage Girl Lands in Rehab for*
‘Digital Addiction’, PBS (May 16, 2017), <https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction>.

21 838 Lesley McClurg, *After Compulsively Watching YouTube, Teenage Girl Lands in Rehab for*
‘Digital Addiction’, PBS (May 16, 2017), <https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction>.

22 839 Lesley McClurg, *After Compulsively Watching YouTube, Teenage Girl Lands in Rehab for*
‘Digital Addiction’, PBS (May 16, 2017), <https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction>.

23 840 Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
 (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

24 841 Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
 (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

1 grooming the child from abuse.”⁸⁴² But “in the last five years, when I follow the trail all the way
 2 back, it’s YouTube and that’s where it ends.”⁸⁴³

3 767. Daniels has also seen increased rates of anxiety among children using YouTube.
 4 And because of that anxiety, those children “exhibit loss of appetite, sleeplessness, crying fits, and
 5 fear.”⁸⁴⁴ Ultimately, she says, “YouTube is an ongoing conversation in my therapy practice, which
 6 indicates there’s a problem.”⁸⁴⁵

7 768. One study determined that using Google’s product was “consistently associated with
 8 negative sleep outcomes.”⁸⁴⁶ Specifically, for every 15 minutes teens spent using YouTube, they
 9 were 24% less likely to get seven hours of sleep. According to Dr. Alon Avidan, director of the
 10 UCLA Sleep Disorders Center, YouTube is particularly sleep disruptive because its
 11 recommendation algorithm and autoplay features make it “so easy to finish one video” and watch
 12 the next.⁸⁴⁷ Similarly, a signal that the YouTube algorithm relies on is the ‘time of day’ a user is
 13 watching—a signal that, when used to maximize length of duration with the YouTube product,
 14 induces sleep deprivation.⁸⁴⁸

15
 16
 17 ⁸⁴² Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
 18 (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

18 ⁸⁴³ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
 19 (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

20 ⁸⁴⁴ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
 21 (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

22 ⁸⁴⁵ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
 23 (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

24 ⁸⁴⁶ Meg Pillion et al., *What’s ‘app’-ning to adolescent sleep? Links between device, app use, and
 25 sleep outcomes*, 100 Sleep Med. 174–82 (Dec. 2022),
<https://www.sciencedirect.com/science/article/abs/pii/S1389945722010991?via%3Dihub>.

25 ⁸⁴⁷ Cara Murez, *One App Is Especially Bad for Teens’ Sleep*, U.S. News & World Rep. (Sept. 13,
 26 2022), <https://www.usnews.com/news/health-news/articles/2022-09-13/one-app-is-especially-bad-for-teens-sleep>.

27 ⁸⁴⁸ YouTube, *How YouTube Works*, <https://www.youtube.com/howyoutubeworks/product-features/recommendations/#signals-used-to-recommend-content>.

1 769. Sleep deprivation is, in turn, associated with poor health outcomes. For example,
 2 “insufficient sleep negatively affects cognitive performance, mood, immune function,
 3 cardiovascular risk, weight, and metabolism.”⁸⁴⁹

4 770. Compulsively consuming harmful content on YouTube can also harm brain
 5 development. According to Donna Volpitta, Ed.D, “[c]hildren who repeatedly experience stressful
 6 and/or fearful emotions may under develop parts of their brain’s prefrontal cortex and frontal lobe,
 7 the parts of the brain responsible for executive functions, like making conscious choices and
 8 planning ahead.”⁸⁵⁰

9 771. Google’s algorithm also promotes the creation of and pushes children towards
 10 extremely dangerous prank or “challenge” videos, which often garner thousands of “Likes,” adding
 11 to the pressure chidren feel to participate.⁸⁵¹ For example, the YouTube algorithm repeatedly
 12 pushed 10-year-old MDL plaintiff K.L.J. to videos of a viral prank called the “I Killed Myself
 13 Prank,” in which children pretend to have committed suicide to record their loved ones’ reactions.
 14 When K.L.J. eventually participated in the prank and tried to pretend to hang himself, he
 15 accidentally did hang himself, suffering brain damage as a result. The neurological and
 16 psychological techniques by which Google, like other Defendants, fosters excessive, addictive use
 17 of YouTube in turn foster watching “challenge” videos.

18 772. Even though Google knew or should have known of these risks to its youth users,
 19 Google’s product lacks any warnings that foreseeable product use could cause these harms.

20 773. And despite all the evidence that YouTube’s design and algorithms harm millions
 21 of children, Google continues to manipulate users and compel them to use the product excessively,
 22 to enhance Google’s bottom line. As a result, young people are confronted with more and more
 23 extreme videos, often resulting in significant harm.

24 ⁸⁴⁹ Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance*
 25 *Among Young Adults*, 85 Preventive Med. 36–41 (Apr. 2016),
<https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>.

26 ⁸⁵⁰ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
 27 (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

28 ⁸⁵¹ See, e.g., ViralBrothers, *Revenge 9 – Cheating Prank Turns into Suicide Prank*, YouTube
 (June 11, 2014), https://www.youtube.com/watch?v=Bf7xIjz_ww0.

d. **YouTube's defective features include impediments to discontinuing use.**

774. As with other Defendants, Google has intentionally and defectively designed its products so that adolescent users, including Plaintiffs, face significant navigational obstacles and hurdles when trying to delete or deactivate their accounts, in contrast to the ease with which users can create those accounts.

775. *First*, because YouTube is accessible without a user needing to log in, YouTube users cannot prevent themselves from being able to access YouTube by deleting their YouTube account.

776. *Second*, YouTube accounts are linked to a user's broader Google account. These accounts are structured such that, for a user to delete a YouTube account, the user must also delete the user's entire Google account. This means that if a YouTube user uses Google's other products those accounts will be lost as well. This structure holds hostage user data—if a child needs to keep their email account through Google (for instance, if that is a requirement of their school), they cannot delete their YouTube account, even if they want to. If a user stores family photos in Google Photos, but wants to delete their YouTube account, they must choose between storage for their photos or deleting their YouTube account. Similarly, if a user has purchased books or movies through Google's digital market Google Play, the user's copy of those books or movies will be deleted if the user deletes their Google account to rid themselves of YouTube. Google explicitly threatens users with this consequence on the page where users can delete their account, listing every associated account Google will delete and providing examples of the kinds of content that will be deleted if a user does not back down from their desire to delete their YouTube account.

777. *Third*, Google intentionally designed its product so that to delete a user's Google account, a user must locate and tap on six different buttons (through six different pages and popups) from YouTube's main feed to delete an account successfully. This requires navigating away from YouTube and into the webpages of other Google products. As with Meta, users are still able to recover their accounts after deletion—though unlike Meta, Google does not tell users when their accounts will become unrecoverable, simply threatening that they will soon after deletion.

1 **4. Google facilitates the spread of CSAM and child exploitation.**

2 778. Various design features of YouTube promote and dramatically exacerbate sexual
3 exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that harms
4 children.

5 779. Google is required to comply with COPPA and obtain verifiable parental consent
6 before collecting personal information from children. It fails to do so. In 2019, the FTC and New
7 York Attorney General alleged in a federal complaint that Google and YouTube violated COPPA
8 by collecting personal information from children without verifiable parental consent.⁸⁵²

9 780. Google and YouTube collected persistent identifiers that they used to track viewers
10 of child-directed channels across the Internet without prior parental notification, in violation of
11 Sections 1303(c), 1305(a)(1), and 1306(d) of COPPA.⁸⁵³

12 781. Google and YouTube designed the child-centered YouTube Kids product. Despite
13 its clear knowledge of this channel being directed to children under 13 years old, Google served
14 targeted advertisements on these channels.⁸⁵⁴

15 782. Google pays its users to create content because it benefits from increased user
16 activity and receives something of value for its YouTube Partner Program.⁸⁵⁵

17 783. Google allows users to monetize its product to generate revenue for itself and its
18 users, including users that violate laws prohibiting the sexual exploitation of children.

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20
21 ⁸⁵² Fed. Trade Comm'n, Google and YouTube Will Pay Record \$170 Million for Alleged
22 Violations of Children's Privacy Law (2022), <https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>.

23 ⁸⁵³ Fed. Trade Comm'n, Google and YouTube Will Pay Record \$170 Million for Alleged
24 Violations of Children's Privacy Law (2022), <https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>.

25 ⁸⁵⁴ Fed. Trade Comm'n, Google and YouTube Will Pay Record \$170 Million for Alleged
26 Violations of Children's Privacy Law (2022), <https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>.

27 ⁸⁵⁵ YouTube Partner Program overview & eligibility,
28 <https://support.google.com/youtube/answer/72851?hl=en>.

1 784. According to its own guidelines, Google prohibits using its social media product in
 2 ways that “[endanger] the emotional and physical well-being of minors.”⁸⁵⁶

3 785. Google represents that YouTube “has strict policies and robust operations in place
 4 to tackle content and behavior that is harmful or exploitative to children.”⁸⁵⁷

5 786. Google maintains that its guidelines prohibit images, videos, and comments that put
 6 children at risk, “including areas such as unwanted sexualization, abuse, and harmful and dangerous
 7 acts.”⁸⁵⁸

8 787. While Google “may place an age restriction on the video,”⁸⁵⁹ its product fails to
 9 implement proper age-verification mechanisms to prevent minor users from accessing age-
 10 restricted content, as discussed above.

11 788. Google fails to prevent collages of images and videos of children showing their
 12 exposed buttocks, underwear, and genitals from racking up millions of views, on its product which
 13 are then promoted and monetized by displaying advertisements from major brands alongside the
 14 content.⁸⁶⁰

15 789. Through Google’s product, videos of minors revealing their “bathing suit hauls,”
 16 playing in pools, beaches, waterparks, or performing gymnastics are recommended, shown, and
 17 promoted to child predators who interact with these videos, including commenting to share “time
 18 codes for crotch shots,” to direct others to similar videos, and to arrange to meet up on other social
 19 media products to share and exchange CSAM.⁸⁶¹

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 21
 22 ⁸⁵⁶ Child safety policy - YouTube help, Google,
<https://support.google.com/youtube/answer/2801999?hl=en>.

23 ⁸⁵⁷ Child safety policy - YouTube help, Google,
<https://support.google.com/youtube/answer/2801999?hl=en>.

24 ⁸⁵⁸ Child safety policy - YouTube help, Google,
<https://support.google.com/youtube/answer/2801999?hl=en>.

25 ⁸⁵⁹ Child safety policy - YouTube help, Google,
<https://support.google.com/youtube/answer/2801999?hl=en>.

26 ⁸⁶⁰ K.G Orphanides, *On YouTube, a network of pedophiles is hiding in plain sight* WIRED UK
 (2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

27 ⁸⁶¹ K.G Orphanides, *On YouTube, a network of pedophiles is hiding in plain sight* WIRED UK
 (2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

1 790. Multiple YouTube channels dedicated to pre-teen models, young girls stretching,
 2 and teen beauty are routinely oversexualized and manipulated by predators.⁸⁶²

3 791. Google's product recommends and promotes abusive behaviors towards children
 4 and victimizes unsuspecting minors on a mass scale.

5 792. When users search for images and videos of minors, Google's algorithm pushes
 6 additional videos, which strictly feature children, and this recommended content often includes
 7 promoted content for which Google receives value from advertisers.

8 793. Users of Google's product who search for images and videos of minors are further
 9 inundated with comments from other predators that provide hyperlinks to CSAM and opportunities
 10 to share CSAM on other products.⁸⁶³

11 794. On average, Google pays its creators \$0.50 to \$6.00 per 1,000 views of any video
 12 they create, including materials depicting minors in violation of 18 U.S.C. §§ 2252, 2252A, 1591,
 13 1466, and other criminal statutes.⁸⁶⁴

14 795. Google actively participates and receives value for creating content on its product
 15 in violation of 18 U.S.C. §§ 2252, 2252A, 1591, 1466, and other criminal statutes.

16 796. Google actively participates and receives value for creating content on its product
 17 in violation of laws prohibiting the sexual exploitation of children.

18 797. Google maintains that it is "dedicated to stopping the spread of online child
 19 exploitation videos."⁸⁶⁵ Yet, it fails to implement proper safeguards to prevent the spread of illegal
 20 contraband on its product.

21 798. The troves of data and information about its users that Google collects enable it to
 22 detect, report as legally required, and take actions to prevent instances of sexual grooming,

23 ⁸⁶² K.G Orphanides, On YouTube, a network of pedophiles is hiding in plain sight WIRED UK
 24 (2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

25 ⁸⁶³ K.G Orphanides, On YouTube, a network of pedophiles is hiding in plain sight WIRED UK
 26 (2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

27 ⁸⁶⁴ How YouTube creators earn money - how YouTube works, YouTube,
 28 <https://www.youtube.com/howyoutubeworks/product-features/monetization/#:~:text=Advertising%20is%20the%20primary%20way,directly%20profit%20from%20their%20work.>

⁸⁶⁵ YouTube, <https://www.youtube.com/csai-match/>.

1 sextortion, and CSAM distribution, but it has failed to do so. Google continues to make false
 2 representations its “teams work around-the-clock to identify, remove, and report this content.”⁸⁶⁶

3 799. Google has proprietary technology, CSAI Match, that is supposed to combat CSAI
 4 (Child Sexual Abuse Imagery) content online. This technology allows Google to identify known
 5 CSAM contraband being promoted, shared, and downloaded on the YouTube product. Google’s
 6 CSAI Match can identify which portion of the video matches known and previously hashed CSAM
 7 and provide a standardized categorization of the CSAM. When a match is detected by Google using
 8 CSAI Match, it is flagged so that Google can “responsibly report in accordance to local laws and
 9 regulations.”⁸⁶⁷

10 800. Despite this, Google routinely fails to flag CSAM and regularly fails to adequately
 11 report known content to NCMEC and law enforcement, including CSAM depicting Plaintiffs, and
 12 fails to takedown, remove, and demonetize CSAM.

13 801. Separate from CSAM detection, Google also implements an automated system
 14 called Content ID “to easily identify and manage [its] copyright-protected content on YouTube.”⁸⁶⁸
 15 Videos uploaded to YouTube are “scanned against a database of audio and visual content that’s
 16 been submitted to YouTube by copyright owners,” and Google can block, monetize, and track that
 17 material automatically.⁸⁶⁹ Google only grants Content ID to copyright owners who meet its own
 18 specific criteria, and these criteria categorically exclude CSAM victims. Google fails to use Content
 19 ID systems to block, remove, demonetize, or report CSAM on its product.

20 802. In 2018, Google launched “cutting-edge artificial intelligence (AI) that significantly
 21 advances [Google’s] existing technologies,” which Google claimed “drastically improved”

23 866 Google’s efforts to combat online child sexual abuse material,
 24 <https://transparencyreport.google.com/child-sexual-abuse-material/reporting>.

25 867 Google’s efforts to combat online child sexual abuse material,
 26 <https://transparencyreport.google.com/child-sexual-abuse-material/reporting>.

27 868 How Content ID Works – YouTube Help, Google,
 28 <https://support.google.com/youtube/answer/2797370?hl=en>.

869 How Content ID Works – YouTube Help, Google,
<https://support.google.com/youtube/answer/2797370?hl=en>.

1 detection of CSAM that is distributed by its YouTube product.⁸⁷⁰ These claims were false, and
 2 misled parents and children into believing its product is safe for minors. Google failed to drastically
 3 improve the frequency of CSAM detection, reports, and takedowns on its product.

4 803. Google claims that it will “continue to invest in technology and organizations to
 5 help fight the perpetrators of CSAM and to keep our products and our users safe from this type of
 6 abhorrent content.”⁸⁷¹ In reality, it fails to do so. Google fails to invest in adequate age verification
 7 and continues to fail to remove CSAM from its product.

8 804. Google knows or should have known that YouTube facilitates the production,
 9 possession, distribution, receipt, transportation, and dissemination of millions of materials that
 10 depict obscene visual representations of the sexual abuse of children, or that violate child
 11 pornography laws, each year.

12 805. Google knowingly fails to take adequate and readily available measures to remove
 13 these contraband materials from its product in a timely fashion.

14 806. In violation of 18 U.S.C. § 2258A, Google knowingly fails to report massive
 15 amounts of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

16 807. YouTube is polluted with illegal material that promotes and facilitates the sexual
 17 exploitation of minors, and Google receives value in the form of increased user activity for the
 18 dissemination of these materials on its products.

19 808. Google failed to report materials, including materials depicting Plaintiffs, in
 20 violation of the reporting requirements of 18 U.S.C. § 2258A.⁸⁷²

21 809. Google knows that its product is unsafe for children and yet fails to implement
 22 safeguards to prevent children from accessing its product.

23
 24

⁸⁷⁰ Nikola Todorovic, *Using AI to help organizations detect and report Child sexual abuse*
 25 *material online* Google (2018), <https://blog.google/around-the-globe/google-europe/using-ai-help-organizations-detect-and-report-child-sexual-abuse-material-online/>.

26 ⁸⁷¹ Nikola Todorovic, *Using AI to help organizations detect and report Child sexual abuse*
 27 *material online* Google (2018), <https://blog.google/around-the-globe/google-europe/using-ai-help-organizations-detect-and-report-child-sexual-abuse-material-online/>.

28 ⁸⁷² NCMEC, 2019 CyberTipline reports by Electronic Service Providers (ESP),
<https://www.missingkids.org/content/dam/missingkids/pdfs/2019-reports-by-esp.pdf>.

1 810. Further, there is effectively no way for users to report CSAM on Google's YouTube
 2 product. YouTube does not allow users to specifically report any material posted on its product as
 3 CSAM or child pornography.⁸⁷³

4 811. YouTube Mobile does not provide any way to report users, including users who
 5 share CSAM on its product. On the desktop, a viewer can report a user, but Google has made the
 6 reporting function difficult to access. Furthermore, reporting requires a viewer to have a Google
 7 account and be logged in to the account to make the report.⁸⁷⁴

8 **5. Google failed to adequately warn Plaintiffs about the harm its**
products cause or provide instructions regarding safe use.

10 812. Since YouTube's inception, Google has failed to adequately warn adolescent users
 11 about the physical and mental health risks its product poses. These risks include, but are not limited
 12 to, product abuse, addiction, and compulsive use; sexual exploitation from adult users; dissociative
 13 behavior; damage to body image; social isolation; impaired brain development; and a plethora of
 14 mental health disorders like body dysmorphia, eating disorders, anxiety, depression, insomnia,
 15 ADD/ADHD exacerbation, suicidal ideation, self-harm, and death.

16 813. Google targets adolescent users via advertising and marketing materials distributed
 17 throughout digital and traditional media products. Its advertising and marketing campaigns fail to
 18 provide adequate warnings to potential adolescent consumers of the physical and mental risks
 19 associated with using YouTube.

20 814. Google further fails to adequately warn adolescents during the product registration
 21 process. At account setup, Google's product contains no warning labels, banners, or conspicuous
 22 messaging to adequately inform adolescent users of the known risks and potential physical and
 23 mental harms associated with usage of its product. Instead, Google allows adolescents to easily
 24 create an account (or multiple accounts), and to access YouTube with or without an account.

25
 26 ⁸⁷³ Canadian Centre for Child Protection, Reviewing Child Sexual Abuse Material Reporting
 27 Functions on Popular Platforms,
https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf.

28 ⁸⁷⁴ Canadian Centre for Child Protection, Reviewing Child Sexual Abuse Material Reporting
 Functions on Popular Platforms, at 18
https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf.

1 815. Google's lack of adequate warnings continues once an adolescent uses YouTube.
 2 Google does not adequately inform adolescent users that their data will be tracked, used to help
 3 build a unique algorithmic profile, and potentially sold to Google's advertising clients.

4 816. Google's failure to warn adolescent users continues even as adolescents exhibit
 5 problematic signs of addictive, compulsive use of YouTube. Google does not adequately warn users
 6 when their screen time reaches harmful levels or when adolescents are accessing the product on a
 7 habitual and uncontrolled basis.

8 817. Not only does Google fail to adequately warn users regarding the risks associated
 9 with YouTube, it also does not provide adequate instructions on how adolescents can safely use its
 10 product. A reasonable and responsible company would instruct adolescents on best practices and
 11 safety protocols when using a product known to pose health risks.

12 818. Google also fails to adequately warn users that:

- 13 a. sexual predators use YouTube to produce and distribute CSAM;
- 14 b. adult predators targeting young children for sexual exploitation, sextortion,
 and CSAM are prevalent on YouTube;
- 15 c. usage of YouTube can increase the risk of children being targeted and
 sexually exploited by adult predators; and,
- 16 d. usage of YouTube can increase risky and uninhibited behavior in children,
 making them easier targets to adult predators for sexual exploitation,
 sextortion, and CSAM.

21 819. Google failed to adequately warn parents about all of the foregoing dangers and
 22 harms. Google's failure to adequately warn and instruct as set forth above has proximately caused
 23 significant harm to Plaintiffs' and Consortium Plaintiffs' mental and physical well-being, and other
 24 injuries and harms as set forth herein.

25 **V. TIMELINESS AND TOLLING OF STATUTES OF LIMITATIONS**

26 820. Through the exercise of reasonable diligence, Plaintiffs and Consortium Plaintiffs
 27 did not and could not have discovered that Defendants' products caused their injuries and/or
 28

1 sequelae thereto because, at the time of these injuries and/or sequelae thereto, the cause was
 2 unknown to Plaintiffs and Consortium Plaintiffs.

3 821. Plaintiffs and Consortium Plaintiffs did not suspect and had no reason to suspect
 4 Defendants' products caused his/her injuries and/or sequelae thereto until less than the applicable
 5 limitations period prior to the filing of this action.

6 822. Due to the highly technical nature of the platforms' features, Plaintiffs and
 7 Consortium Plaintiffs were unable to independently discovery that Defendants' products caused
 8 their injuries and/or sequelae thereto until less than the applicable limitations period prior to the
 9 filing of this action.

10 823. Defendants had exclusive knowledge of the material defects designed and
 11 implemented into their platforms, and they have at all times through the present maintained their
 12 proprietary designs of their platforms' features as strictly confidential.

13 824. In addition, Defendants' fraudulent concealment and/or other tortious conduct has
 14 tolled the running of any statute of limitations.

15 825. Defendants had a duty to disclose dangerous and defective features that cause
 16 foreseeable harm to children and teens.

17 826. Defendants knowingly, affirmatively, and actively concealed from Plaintiffs and
 18 Consortium Plaintiffs the risks associated with the defects of Defendants' products and that these
 19 products caused their injuries and/or sequelae thereto.

20 827. Defendants committed tortious and/or fraudulent acts that continue to this day. As
 21 of the date of this Complaint, Defendants still have not disclosed, and continue to conceal, that they
 22 designed and implemented dangerous features into their platforms. Despite their knowledge of the
 23 defects and their attendant safety risks, Defendants continue to market their platforms to children
 24 and teens while simultaneously omitting the disclosure of known and foreseeable harms to children
 25 and teens.

26 828. Plaintiffs were unaware and could not have reasonably known or learned through
 27 reasonable diligence that they had been exposed to the defects and risks alleged herein and that
 28 those defects and risks were the direct and proximate result of Defendants' acts and omissions.

829. Consortium Plaintiffs were unaware and could not have reasonably known or learned through reasonable diligence that the harms they suffered were directly and proximately caused by Defendants' acts and omissions.

830. For the foregoing reasons, Defendants are estopped from relying on any statutes of limitation or repose as a defense in this action. All applicable statutes of limitation and repose have been tolled by operation of the discovery rule and by Defendants' active concealment with respect to all claims against Defendants.

VI. PLAINTIFFS' CLAIMS

831. Plaintiffs and Consortium Plaintiffs plead all Causes of Action of this Complaint in the broadest sense, pursuant to all laws that may apply under choice-of-law principles, including the law of the resident states of Plaintiffs and Consortium Plaintiffs. To the extent applicable to specific Causes of Action, Plaintiffs and Consortium Plaintiffs plead these Causes of Action under all applicable product liability acts, statutes, and laws of their respective States.

**COUNT 1:
STRICT LIABILITY – DESIGN DEFECT
(Against All Defendants)**

832. Plaintiffs and Consortium Plaintiffs reallege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

833. At all relevant times, each Defendant designed, developed, managed, operated, tested, produced, labeled, marketed, advertised, promoted, controlled, sold, supplied, distributed, and benefitted from its products used by Plaintiffs.

834. Each of the Defendant's respective products are designed and intended to be social media products.

835. Each of the Defendant's respective products are distributed and sold to the public through retail channels (i.e., the Apple App "Store" and the Google Play "Store").

836. Each of the Defendant's respective products are marketed and advertised to the public for the personal use of the end-user / consumer.

1 837. Each of the Defendant's defectively designed its respective products to addict
 2 minors and young adults, who were particularly unable to appreciate the risks posed by the
 3 products, and particularly susceptible to harms from those products.

4 838. The defects in the design of each of the Defendant's respective products existed
 5 prior to the release of these products to Plaintiffs and the public, and there was no substantial change
 6 to any of the Defendants' products between the time of their upload by each Defendant to public
 7 or retail channels (e.g., the App Store or Google Play) and the time of their distribution to Plaintiffs
 8 via download or URL access.

9 839. Plaintiffs used these products as intended, and each Defendant knew or, by the
 10 exercise of reasonable care, should have known that Plaintiffs would use these products without
 11 inspection for its addictive nature.

12 840. Each Defendant defectively designed its respective products to take advantage of
 13 the chemical reward system of users' brains (especially young users) to create addictive
 14 engagement, compulsive use, and additional mental and physical harms.

15 841. Each Defendant failed to test the safety of the features it developed and implemented
 16 for use on its respective products. When each Defendant did perform some product testing and had
 17 knowledge of ongoing harm to Plaintiffs, it failed to adequately remedy its respective product's
 18 defects or warn Plaintiffs.

19 842. Each of the Defendant's respective products are defective in design and pose a
 20 substantial likelihood of harm for the reasons set forth herein, because the products fail to meet the
 21 safety expectations of ordinary consumers when used in an intended or reasonably foreseeable
 22 manner, and because the products are less safe than an ordinary consumer would expect when used
 23 in such a manner. Children and teenagers are among the ordinary consumers of each of the
 24 Defendant's products. Indeed, each Defendant markets, promotes, and advertises its respective
 25 products to pre-teen and young consumers. Pre-teen and young consumers, and their parents and
 26 guardians, do not expect Defendants' products to be psychologically and neurologically addictive
 27 when the products are used in its intended manner by its intended audience. They do not expect the
 28 algorithms and other features embedded by each Defendant in its respective products to make them

1 initially and progressively more stimulative, to maximize young consumers' usage time. They do
 2 not expect each Defendant's revenues and profits to be directly tied to the strength of this addictive
 3 mechanism and dependent on young consumers spending several hours a day using their respective
 4 products.

5 843. Each of the Defendant's respective products are likewise defectively designed in
 6 that it creates an inherent risk of danger; specifically, a risk of abuse, addiction, and compulsive
 7 use by youth which can lead to a cascade of harms. Those harms include but are not limited to
 8 dissociative behavior, withdrawal symptoms, social isolation, damage to body image and self-
 9 worth, increased risky behavior, exposure to predators, sexual exploitation, and profound mental
 10 health issues for young consumers including but not limited to depression, body dysmorphia,
 11 anxiety, suicidal ideation, self-harm, insomnia, eating disorders, death, and other harmful effects.

12 844. The risks inherent in the design of each of the Defendant's respective products
 13 significantly outweigh any benefit of such design.

14 845. Each of the Defendants could have utilized cost-effective, reasonably feasible
 15 alternative designs including algorithmic changes and changes to the addictive features described
 16 above, to minimize the harms described herein, including, but not limited to:

- 17 a. Robust age verification;
- 18 b. Effective parental controls;
- 19 c. Effective parental notifications;
- 20 d. Warning of health effects of use and extended use upon sign-up;
- 21 e. Default protective limits to the length and frequency of sessions;
- 22 f. Opt-in restrictions to the length and frequency of sessions;
- 23 g. Self-limiting tools, including but not limited to session time notifications,
 warnings, or reports;
- 24 h. Blocks to use during certain times of day (such as during school hours or late
 at night);
- 25 i. Beginning and end to a user's "Feed;"
- 26 j. Redesigning algorithms to limit rather than promote addictive engagement;

- 1 k. Implementing labels on images and videos that have been edited through
2 product features such as “filters;”
- 3 l. Limits on the strategic timing and clustering of notifications to lure back
4 users;
- 5 m. Removing barriers to the deactivation and deletion of accounts;
- 6 n. Designing products that did not include the defective features listed in this
7 Complaint while still fulfilling the social networking purposes of a social
8 media product;
- 9 o. Implementing freely available and industry-proven child protection API
10 tools such as Project Arachnid Shield to help limit and prevent child sexual
11 exploitation, sextortion, and distribution of known CSAM through their
12 products;
- 13 p. Implementing reporting protocols to allow users or visitors of Defendants’
14 products to report CSAM and adult predator accounts specifically without
15 the need to create or log in to the products prior to reporting;
- 16 q. Implementing the legal definition of CSAM under 18 U.S.C. § 2256(8) and
17 related case law when scanning for CSAM using tools such as PhotoDNA
18 and CSAI to prevent underreporting of known CSAM;
- 19 r. Prioritizing “tolerance” rather than “efficiency” and “distinctness” of the
20 detection model when using scanning tools such as PhotoDNA and CSAI to
21 prevent underreporting of known CSAM;
- 22 s. Implementing client-side scanning and hashing and/or secure enclaves in the
23 direct messaging features of Meta’s, Snap’s, and ByteDance’s products, to
24 prevent underreporting of known CSAM, and implementing proactive
25 detection measures to scan for known CSAM within all Defendants’ social
26 media products and remove it;
- 27 t. Limiting or eliminating the use of geolocating for minors;

- u. Eliminating product features that recommend minor accounts to adult strangers; and
- v. Others as set forth herein.

846. Alternative designs were available that would reduce minors' addictive and compulsive engagement with each of the Defendants' respective products, and which would have served effectively the same purpose of Defendants' products while reducing the gravity and severity of danger posed by those products' defects.

847. Plaintiffs used Defendants' respective products as intended or in reasonably foreseeable ways.

848. The physical, emotional, and economic injuries of Plaintiffs and Consortium Plaintiffs were reasonably foreseeable to each of the Defendants at the time of their respective products' development, design, advertising, marketing, promotion, and distribution.

849. Defendants' respective products were defective and unreasonably dangerous when they left the Defendants' respective possession and control. The defects continued to exist through the products' distribution to and use by consumers, including Plaintiffs, who used the products without any substantial change in the products' condition.

850. Plaintiffs and Consortium Plaintiffs were injured as a direct and proximate result of each of the Defendant's respective defective designs as described herein. The defective design of the products used by Plaintiffs was a substantial factor in causing harms to Plaintiffs and Consortium Plaintiffs.

851. As a direct and proximate result of Defendants' respective products' defective design, Plaintiffs and Consortium Plaintiffs suffered serious and dangerous injuries.

852. As a direct and proximate result of Defendants' respective products' defective design, Plaintiffs and Consortium Plaintiffs require and/or will require more healthcare and services and did incur medical, health, incidental, and related expenses.

853. The injuries of Plaintiffs and Consortium Plaintiffs cannot be wholly remedied by monetary relief and such remedies at law are inadequate.

1 854. The nature of the fraudulent and unlawful acts that created safety concerns for
2 Plaintiffs are not the type of risks that are immediately apparent from using Defendants' respective
3 products. Many Plaintiffs are continuing to use Defendants' respective products. When Plaintiffs
4 use Defendants' respective products, they will not be independently able to verify whether
5 Defendants' respective products continue to pose an unreasonable risk or rely on Defendants'
6 respective representations in the future.

7 855. The conduct of each Defendant, as described above, was intentional, fraudulent,
8 willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and
9 displayed an entire want of care and a conscious and depraved indifference to the consequences of
10 its conduct, including to the health, safety, and welfare of its customers, and warrants an award of
11 punitive damages in an amount sufficient to punish each Defendant and deter others from like
12 conduct.

13 856. Plaintiffs demand judgment against each Defendant for injunctive relief and for
14 compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees,
15 and all such other relief as the Court deems proper.

COUNT 2:
STRICT LIABILITY – FAILURE TO WARN
(Against All Defendants)

18 857. Plaintiffs and Consortium Plaintiffs reallege and incorporate by reference each
19 preceding and succeeding paragraph as though set forth fully at length herein.

858. At all relevant times, each of the Defendants designed, developed, managed,
operated, tested, produced, labeled, marketed, advertised, promoted, controlled, sold, supplied,
distributed, and benefitted from its respective products used by Plaintiffs.

23 859. Plaintiffs were foreseeable users of Defendants' respective products.

24 860. Defendants' respective products are distributed and sold to the public through retail
25 channels (e.g., the Apple App "Store" and the Google Play "Store").

861. Each of the Defendants sold and distributed its respective products to Plaintiffs in a
defective and unreasonably dangerous condition by failing to adequately warn about the risk of
harm to youth as described herein, including a risk of abuse, addiction, and compulsive use by

1 youth which can lead to a cascade of harms. Those harms include but are not limited to dissociative
 2 behavior, withdrawal symptoms, social isolation, damage to body image and self-worth, increased
 3 risky behavior, exposure to predators, sexual exploitation, and profound mental health issues for
 4 young consumers including but not limited to depression, body dysmorphism, anxiety, suicidal
 5 ideation, self-harm, insomnia, eating disorders, death, and other harmful effects.

6 862. Each of the Defendant's respective products is dangerous, to an extent beyond that
 7 contemplated by the ordinary user who used Defendants' products, because they encourage
 8 unhealthy, addictive engagement and compulsive use.

9 863. Each Defendant knew or, by the exercise of reasonable care, should have known
 10 that its respective products posed risks of harm to youth considering its own internal data and
 11 knowledge regarding its products at the time of development, design, marketing, promotion,
 12 advertising, and distribution.

13 864. Defendants' respective products are defective and unreasonably dangerous because,
 14 among other reasons described herein, each Defendant failed to exercise reasonable care to inform
 15 users that, among other things:

- 16 a. Defendants' respective products cause addiction, compulsive use, and/or
 other concomitant physical and mental injuries;
- 17 b. Defendants' respective products harvest and utilize user data in such a way
 that increases a user's risk of addiction to these products and concomitant
 physical and mental injuries;
- 18 c. The algorithmically-targeted feeds in Defendants' respective products are
 designed to promote increasingly stimulative and alarming content to
 encourage compulsive engagement by the user, raising the risk of mental
 health harms including but not limited to depression, self-harm, and eating
 disorders;
- 19 d. Defendants' respective products include features such as appearance-
 altering "filters" that are known to promote negative social comparison,

body dysmorphia, and related injuries among youth by promoting artificial and unrealistic beauty standards;

- e. New users of Defendants' respective products can identify themselves as minors, begin to use the product, and do so indefinitely, without any time or usage limitations, without ever receiving a safety warning, and without ever having to provide information so that each Defendant can warn the users' parents or guardians;
- f. The likelihood and severity of harms is greater for minors and young adults;
- g. The likelihood and intensity of these harmful effects is exacerbated by the interaction of each product's features with one another, and by algorithms and other source code design that is currently publicly unknown and hidden from the users and the government;
- h. Sexual predators use Defendants' respective products to produce and distribute CSAM;
- i. Adult predators target young children for sexual exploitation, sextortion, and CSAM on Defendants' respective products, with alarming frequency;
- j. Usage of Defendants' respective products can increase the risk that children are targeted and sexually exploited by adult predators;
- k. Usage of Defendants' respective products can increase risky and uninhibited behavior in children, making them easier targets to adult predators for sexual exploitation, sextortion, and CSAM; and
- l. End-to-end encryption and/or the ephemeral nature of Direct Messaging on the Meta, ByteDance, and Snap products prevent the reporting of CSAM.

24 865. Ordinary users would not have recognized the potential risks of Defendants'
25 respective products when used in a manner reasonably foreseeable to each of the Defendants.

26 866. Had Plaintiffs received proper or adequate warnings or instructions as to the risks
27 of using Defendants' respective products, Plaintiffs would have heeded the warnings and/or
28 instructions.

867. Each of the Defendant's failures to adequately warn Plaintiffs about the risks of its defective products was a proximate cause and a substantial factor in the injuries sustained by Plaintiffs and Consortium Plaintiffs.

868. The injuries of Plaintiffs and Consortium Plaintiffs cannot be wholly remedied by monetary relief and such remedies at law are inadequate.

869. The nature of the fraudulent and unlawful acts that created safety concerns for Plaintiffs are not the type of risks that are immediately apparent from using Defendants' respective products. Many Plaintiffs are continuing to use Defendants' respective products. When Plaintiffs use Defendants' respective products, they will not be independently able to verify whether Defendants' respective products continue to pose an unreasonable risk or rely on Defendants' respective representations in the future.

870. The conduct of each Defendant, as described above, was intentional, fraudulent, willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and displayed an entire want of care and a conscious and depraved indifference to the consequences of its conduct, including to the health, safety, and welfare of their customers, and warrants an award of punitive damages in an amount sufficient to punish each Defendant and deter others from like conduct.

871. Plaintiffs and Consortium Plaintiffs demand judgment against each Defendant for injunctive relief and for compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court deems proper.

**COUNT 3:
NEGLIGENCE – DESIGN
(Against All Defendants)**

872. Plaintiffs and Consortium Plaintiffs reallege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

873. At all relevant times, each of the Defendants designed, developed, managed, operated, tested, produced, labeled, marketed, advertised, promoted, controlled, sold, supplied, distributed, and benefitted from its respective products used by Plaintiffs.

1 874. Defendants' respective products were designed and intended to be social media
 2 products.

3 875. Each of the Defendants knew or, by the exercise of reasonable care, should have
 4 known, that its respective products were dangerous, harmful, and injurious when used by youth in
 5 a reasonably foreseeable manner.

6 876. Each Defendant knew or, by the exercise of reasonable care, should have known
 7 that its respective products posed risks of harm to youth. These risks were known and knowable in
 8 light of each of the Defendant's own internal data and knowledge regarding its products at the time
 9 of the products' development, design, marketing, promotion, advertising, and distribution to
 10 Plaintiffs.

11 877. Each of the Defendants knew, or by the exercise of reasonable care, should have
 12 known, that ordinary consumers such as Plaintiffs would not have realized the potential risks and
 13 dangers of the Defendants' respective products. Those risks include abuse, addiction, and
 14 compulsive use in youth which can lead to a cascade of negative effects including but not limited
 15 to dissociative behavior, withdrawal symptoms, social isolation, damage to body image and self-
 16 worth, increased risky behavior, exposure to predators, sexual exploitation, and profound mental
 17 health issues including but not limited to depression, body dysmorphia, anxiety, suicidal ideation,
 18 self-harm, insomnia, eating disorders, and death.

19 878. Each of the Defendants owed a duty to all reasonably foreseeable users to design a
 20 safe product.

21 879. Each of the Defendants owed a heightened duty of care to minor users of its
 22 respective products because children's brains are not fully developed, resulting in a diminished
 23 capacity to make responsible decisions regarding the frequency and intensity of social media usage.
 24 Children are also more neurologically vulnerable than adults to the addictive aspects of Defendants'
 25 respective products, such as the peer approval that comes from amassing follows and likes.

26 880. Each of the Defendants owe a particularly heightened duty of care to pre-teen users
 27 (those under the age of 13), whose personal information is accorded special attention under federal
 28 law. *See* 15 U.S.C. § 6501 *et seq.*

1 881. Plaintiffs were foreseeable users of the Defendants' respective products.

2 882. Each Defendant knew that minors such as Plaintiffs would use its respective
3 products.

4 883. Each Defendant breached its respective duty in designing its products.

5 884. Each Defendant breached its respective duty by failing to use reasonable care in the
6 design of its products by negligently designing them with features and algorithms as described
7 above that specifically are addictive and harmful to youth, who are particularly unable to appreciate
8 the risks posed by the products.

9 885. Each Defendant breached its respective duty by designing products that were less
10 safe to use than an ordinary consumer would expect when used in an intended and reasonably
11 foreseeable manner.

12 886. Each Defendant breached its respective duty by failing to use reasonable care in the
13 design of its products by negligently designing its products with features and algorithms as
14 described above that created or increased the risk of abuse and addiction in youth, which can lead
15 to a cascade of negative effects including but not limited to dissociative behavior, withdrawal
16 symptoms, social isolation, damage to body image and self-worth, increased risky behavior,
17 exposure to predators, sexual exploitation, and profound mental health issues including but not
18 limited to depression, body dysmorphia, anxiety, suicidal ideation, self-harm, insomnia, eating
19 disorders, death, and other harmful effects.

20 887. Each Defendant breached its respective duty by failing to use reasonable care to use
21 cost-effective, reasonably feasible alternative designs, including algorithmic changes and changes
22 to the addictive features described above, and other safety measures, to minimize the harms
23 described herein. Alternative designs that would reduce the addictive features of Defendants'
24 respective products were available, would have served effectively the same purpose as each of the
25 Defendants' defectively designed products, and would have reduced the gravity and severity of
26 danger Defendants' respective products posed minor Plaintiffs.

27 888. A reasonable company under the same or similar circumstances as each Defendant
28 would have designed a safer product.

889. At all relevant times, Plaintiffs used Defendants' respective products in the manner in which they were intended by Defendants to be used.

890. As a direct and proximate result of each of the Defendants' breached duties, Plaintiffs and Consortium Plaintiffs were harmed. Defendants' design of their respective products was a substantial factor in causing the Plaintiffs' and Consortium Plaintiffs' harms and injuries.

891. The injuries of Plaintiffs and Consortium Plaintiffs cannot be wholly remedied by monetary relief and such remedies at law are inadequate.

892. The nature of the fraudulent and unlawful acts that created safety concerns for Plaintiffs are not the type of risks that are immediately apparent from using Defendants' respective products. Many Plaintiffs are continuing to use Defendants' respective products. When Plaintiffs use Defendants' respective products, they will not be independently able to verify whether Defendants' respective products continue to pose an unreasonable risk or rely on Defendants' respective representations in the future.

893. The conduct of each Defendant, as described above, was intentional, fraudulent, willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and displayed an entire want of care and a conscious and depraved indifference to the consequences of its conduct, including to the health, safety, and welfare of its customers, and warrants an award of punitive damages in an amount sufficient to punish each Defendant and deter others from like conduct.

894. Plaintiffs and Consortium Plaintiffs demand judgment against each Defendant for injunctive relief and for compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court deems proper.

**COUNT 4:
NEGLIGENCE – FAILURE TO WARN
(Against All Defendants)**

895. Plaintiffs and Consortium Plaintiffs reallege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

1 896. At all relevant times, each of the Defendants designed, developed, managed,
 2 operated, tested, produced, labeled, marketed, advertised, promoted, controlled, sold, supplied,
 3 distributed, and benefitted from its respective products used by Plaintiffs.

4 897. Plaintiffs were foreseeable users of Defendants' respective products.

5 898. Each of the Defendants knew, or by the exercise of reasonable care, should have
 6 known, that use of their products was dangerous, harmful, and injurious when used in a reasonably
 7 foreseeable manner, particularly by youth.

8 899. Each of the Defendants knew, or by the exercise of reasonable care, should have
 9 known, that ordinary consumers such as Plaintiffs would not have realized the potential risks and
 10 dangers of the Defendants' products including a risk of abuse, addiction, and compulsive use by
 11 youth which can lead to a cascade of negative effects including but not limited to dissociative
 12 behavior, withdrawal symptoms, social isolation, damage to body image and self-worth, and
 13 profound mental health issues including but not limited to depression, body dysmorphia, anxiety,
 14 suicidal ideation, self-harm, insomnia, eating disorders, and death.

15 900. Had Plaintiffs received proper or adequate warnings about the risks of Defendants'
 16 respective products, Plaintiffs would have heeded such warnings.

17 901. Each of the Defendants knew or, by the exercise of reasonable care, should have
 18 known that its products posed risks of harm to youth. These risks were known and knowable in
 19 light of each of the Defendant's own internal data and knowledge regarding its products at the time
 20 of development, design, marketing, promotion, advertising and distribution to Plaintiffs.

21 902. Each of the Defendants owed a duty to all reasonably foreseeable users, including
 22 but not limited to minor users and their parents, to provide adequate warnings about the risk of
 23 using Defendants' respective products that were known to each of the Defendants, or that each of
 24 the Defendants should have known through the exercise of reasonable care.

25 903. Each of the Defendants owed a heightened duty of care to minor users and their
 26 parents to warn about its products' risks because adolescent brains are not fully developed, resulting
 27 in a diminished capacity to make responsible decisions regarding the frequency and intensity of
 28 social media usage. Children are also more neurologically vulnerable than adults to the addictive

1 aspects of Defendants' respective products, including but not limited to the "flow state" created by
 2 an endless feed and the public social validation created by follows and likes.

3 904. Each of the Defendants owe a particularly heightened duty of care to users under
 4 the age of 13, whose personal information is accorded special protections under federal law. *See* 15
 5 U.S.C. § 6501 *et seq.*

6 905. Each Defendant breached its duty by failing to use reasonable care in providing
 7 adequate warnings to Plaintiffs and Consortium Plaintiffs, as set forth above.

8 906. A reasonable company under the same or similar circumstances as Defendants
 9 would have used reasonable care to provide adequate warnings to consumers, including the parents
 10 of minor users, as described herein.

11 907. At all relevant times, each Defendant could have provided adequate warnings to
 12 prevent the harms and injuries described herein.

13 908. As a direct and proximate result of each Defendant's breach of its respective duty to
 14 provide adequate warnings, Plaintiffs and Consortium Plaintiffs were harmed and sustained the
 15 injuries set forth herein. Each of the Defendants' failure to provide adequate and sufficient warnings
 16 was a substantial factor in causing the harms to Plaintiffs and Consortium Plaintiffs.

17 909. As a direct and proximate result of each of the Defendants' failure to warn, Plaintiffs
 18 and Consortium Plaintiffs require and/or will require more healthcare and services and did incur
 19 medical, health, incidental, and related expenses.

20 910. The injuries of Plaintiffs and Consortium Plaintiffs cannot be wholly remedied by
 21 monetary relief and such remedies at law are inadequate.

22 911. The nature of the fraudulent and unlawful acts that created safety concerns for
 23 Plaintiffs are not the type of risks that are immediately apparent from using Defendants' respective
 24 products. Many Plaintiffs are continuing to use Defendants' respective products. When Plaintiffs
 25 use Defendants' respective products, they will not be independently able to verify whether
 26 Defendants' respective products continue to pose an unreasonable risk or rely on Defendants'
 27 respective representations in the future.

28

1 912. The conduct of each Defendant, as described above, was intentional, fraudulent,
2 willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and
3 displayed an entire want of care and a conscious and depraved indifference to the consequences of
4 its conduct, including to the health, safety, and welfare of their customers, and warrants an award
5 of punitive damages in an amount sufficient to punish each Defendant and deter others from like
6 conduct.

7 913. Plaintiffs and Consortium Plaintiffs demand judgment against each Defendant for
8 injunctive relief and for compensatory, treble, and punitive damages, together with interest, costs
9 of suit, attorneys' fees, and all such other relief as the Court deems proper.

**COUNT 5:
NEGLIGENCE
(Against All Defendants)**

12 914. Plaintiffs and Consortium Plaintiffs reallege and incorporate by reference each
13 preceding and succeeding paragraph as though set forth fully at length herein, other than Counts 1-
14 4 (each of which is pled on a product theory). Count 5 is pled in the alternative on a non-product
15 theory.

16 915. At all relevant times, each Defendant developed, set up, managed, maintained,
17 operated, marketed, advertised, promoted, supervised, controlled, and benefitted from its respective
18 platforms used by Plaintiffs.

19 916. Each Defendant owed Plaintiffs a duty to exercise reasonable care in the
20 development, setup, management, maintenance, operation, marketing, advertising, promotion,
21 supervision, and control of its respective platforms not to create an unreasonable risk of harm from
22 and in the use of its platforms (including an unreasonable risk of addiction, compulsive use, sleep
23 deprivation, anxiety, depression, or other physical or mental injuries); to protect Plaintiffs from
24 unreasonable risk of injury from and in the use of its platforms; and not to invite, encourage, or
25 facilitate youth, such as Plaintiffs, to foreseeably engage in dangerous or risky behavior through,
26 on, or as a reasonably foreseeable result of using its platforms.

917. Plaintiffs were foreseeable users of the Defendants' respective platform(s).

1 918. Each Defendant knew that minors such as Plaintiffs would use their respective
 2 platform(s).

3 919. Each Defendant invited, solicited, encouraged, or reasonably should have foreseen
 4 the fact, extent, and manner of Plaintiffs' use of Defendants' respective platform(s).

5 920. Each Defendant knew or, by the exercise of reasonable care, should have known,
 6 that the reasonably foreseeable use of its respective platforms (as developed, set up, managed,
 7 maintained, supervised, and operated by that Defendant) was dangerous, harmful, and injurious
 8 when used by youth such as Plaintiffs in a reasonably foreseeable manner.

9 921. At all relevant times, each Defendant knew or, by the exercise of reasonable care,
 10 should have known that its respective platforms (as developed, setup, managed, maintained,
 11 supervised, and operated by that Defendant) posed unreasonable risks of harm to youth such as
 12 Plaintiffs, which risks were known and knowable, including in light of the internal data and
 13 knowledge each Defendant had regarding its platforms.

14 922. Each Defendant knew, or by the exercise of reasonable care, should have known,
 15 that ordinary youth users of its respective platforms, such as Plaintiffs, would not have realized the
 16 potential risks and dangers of using the platform, including a risk of addiction, compulsive use, or
 17 excessive use, which foreseeably can lead to a cascade of negative effects, including but not limited
 18 to dissociative behavior, withdrawal symptoms, social isolation, damage to body image and self-
 19 worth, increased risk behavior, exposure to predators, sexual exploitation and profound mental
 20 health issues for young consumers including but not limited to depression, body dysmorphia,
 21 anxiety, suicidal ideation, self-harm, insomnia, eating disorders, and death.

22 923. Each Defendant's conduct was closely connected to Plaintiffs' injuries, which were
 23 highly certain to occur, as evidenced by the significance of Plaintiffs' injuries.

24 924. Each Defendant could have avoided Plaintiffs' injuries with minimal cost,
 25 including, for example, by not including certain features and algorithms in its respective platforms
 26 which harmed Plaintiffs.

27 925. Imposing a duty on Defendants would benefit the community at large.

28

1 926. Imposing a duty on Defendants would not be burdensome to them because they have
 2 the technological and financial means to avoid the risks of harm to Plaintiffs.

3 927. Each Defendant owed a heightened duty of care to youth users of their respective
 4 platforms because the child brain is not fully developed, meaning young people are more
 5 neurologically vulnerable than adults to the addictive and other harmful aspects of Defendants'
 6 respective platforms, and meaning young people have a diminished capacity to make responsible
 7 decisions regarding the frequency, intensity, and manner of their use of Defendants' respective
 8 platforms.

9 928. Each Defendant owes a particularly heightened duty of care to users under the age
 10 of 13 due to the recognized safety risks posed to such users from interactive online platforms, such
 11 as Defendants' respective products. *See 15 U.S.C. § 6501 et seq.*

12 929. Each Defendant has breached its duties of care owed to Plaintiffs through its
 13 affirmative malfeasance, actions, business decisions, and policies in the development, setup,
 14 management, maintenance, operation, marketing, advertising, promotion, supervision, and control
 15 of its respective platforms. Those breaches include:

- 16 a. Including features and algorithms in their respective platforms that, as
 described above, are currently structured and operated in a manner that
 unreasonably creates or increases the foreseeable risk of addiction to,
 compulsive use of, or overuse of the platform by youth, including Plaintiffs;
- 17 b. Including features and algorithms in their respective platforms that, as
 described above, are currently structured and operated in a manner that
 unreasonably creates or increases the foreseeable risk of harm to the physical
 and mental health and well-being of youth users, including Plaintiffs,
 including but not limited to dissociative behavior, withdrawal symptoms,
 social isolation, depression, anxiety, suicide and suicidal ideation, body
 dysmorphia, self-harm, sleep deprivation, insomnia, eating disorders, and
 death;

- 1 c. Including features and algorithms in their respective platforms that, as
- 2 described above, are currently structured and operated in a manner that
- 3 unreasonably exposes youth users to sexual predators and sexual
- 4 exploitation, including features that recommend or encourage youth users to
- 5 connect with adult strangers on or through the platform;
- 6 d. Maintaining unreasonably dangerous features and algorithms in their
- 7 respective platforms after notice that such features and algorithms, as
- 8 structured and operated, posed a foreseeable risk of harm to the physical and
- 9 mental health and well-being of youth users;
- 10 e. Facilitating use of their respective platforms by youth under the age of 13,
- 11 including by adopting protocols that do not ask for or verify the age or
- 12 identity of users or by adopting ineffective age and identity verification
- 13 protocols; and
- 14 f. Facilitating unsupervised and/or hidden use of their respective platforms by
- 15 youth, including by adopting protocols that allow youth users to create
- 16 multiple and private accounts and by offering features that allow youth users
- 17 to delete, hide, or mask their usage.

18 930. Each Defendant has breached its duties of care owed to Plaintiffs through its non-
 19 feasance, failure to act, and omissions in the development, setup, management, maintenance,
 20 operation, marketing, advertising, promotion, supervision, and control of its respective platforms.
 21 Those breaches include:

- 22 a. Failing to implement effective protocols to block users under the age of 13;
- 23 b. Failing to implement effective parental controls;
- 24 c. Failing to implement reasonably available means to monitor for and limit or
 deter excessive frequency or duration of use of platforms by youth, including
 patterns, frequency, or duration of use that are indicative of addiction,
 compulsive use, or overuse;

- 1 d. Failing to implement reasonably available means to limit or deter use of
2 platforms by youth during ordinary times for school or sleep;
- 3 e. Failing to implement reasonably available means to set up and operate its
4 platforms without algorithms and features, discussed above, that rely on
5 unreasonably dangerous methods (such as endless scroll, autoplay, IVR,
6 social comparison, and others) as a means to engage youth users;
- 7 f. Failing to set up, monitor, and modify the algorithms used on their platforms
8 to prevent the platforms from actively driving youth users into unsafe,
9 distorted, and unhealthy online experiences, including highly sexualized,
10 violent, and predatory environments and environments promoting eating
11 disorders and suicide;
- 12 g. Failing to implement reasonably available means to monitor for, report, and
13 prevent the use of their platforms by sexual predators to victimize, abuse,
14 and exploit youth users; and
- 15 h. Failing to provide effective mechanisms for youth users and their
16 parents/guardians to report abuse or misuse of the platforms.

17 931. A reasonable company under the same or similar circumstances as each Defendant
18 would have developed, set up, managed, maintained, supervised, and operated its platforms in a
19 manner that is safer for and more protective of youth users like Plaintiffs.

20 932. At all relevant times, Plaintiffs used one or more of the Defendants' respective
21 platforms in the manner in which they were intended to be used.

22 933. As a direct and proximate result of each Defendant's breach of one or more of its
23 duties, Plaintiffs and Consortium Plaintiffs were harmed. Such harms include addiction to, or
24 compulsive or excessive use of, Defendants' platforms, and cascade of resulting negative effects,
25 including but not limited to dissociative behavior, withdrawal symptoms, social isolation, damage
26 to body image and self-worth, increased risky behavior, exposure to predators, sexual exploitation
27 and profound mental health issues including but not limited to depression, body dysmorphia,
28 anxiety, suicidal ideation, self-harm, insomnia, eating disorders, and death.

934. Each Defendant's breach of one or more of its duties was a substantial factor in causing harms and injuries to the Plaintiffs and Consortium Plaintiffs.

935. The injuries of Plaintiffs and Consortium Plaintiffs cannot be wholly remedied by monetary relief and such remedies at law are inadequate.

936. The nature of the fraudulent and unlawful acts that created safety concerns for Plaintiffs are not the type of risks that are immediately apparent from using Defendants' respective products. Many Plaintiffs are continuing to use Defendants' respective products. When Plaintiffs use Defendants' respective products, they will not be independently able to verify whether Defendants' respective products continue to pose an unreasonable risk or rely on Defendants' respective representations in the future.

937. Each Defendant's conduct, as described above, was intentional, fraudulent, willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and displayed an entire want of care and a conscious and depraved indifference to the consequences of their conduct, including to the health, safety, and welfare of their customers, and warrants an award of punitive damages in an amount sufficient to punish the Defendants and deter others from like conduct.

938. Plaintiffs and Consortium Plaintiffs demand judgment against each Defendant for injunctive relief and for compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court deems proper.

**COUNT 6:
NEGLIGENT UNDERTAKING
(Against All Defendants)**

939. Plaintiffs and Consortium Plaintiffs reallege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

940. Each Defendant rendered age verification services to Plaintiffs.

941. Each Defendant should have recognized that effective age verification services were needed for the protection of pre-teen Plaintiffs (those under the age of 13).

942. Each Defendant's conduct was closely connected to Plaintiffs' injuries, which were highly certain to occur, as evidenced by the significance of Plaintiffs' injuries.

1 943. Each Defendant could have avoided Plaintiffs' injuries with minimal cost,
 2 including, for example, by implementing age verification services that were effective and would
 3 prevent access by pre-teen users of their products.

4 944. Imposing a duty on Defendants would benefit the community at large.

5 945. Imposing a duty on Defendants would not be burdensome to them because they have
 6 the technological and financial means to avoid the risks of harm to Plaintiffs.

7 946. Each Defendant owed a heightened duty of care to minor users and their parents to
 8 implement age verification services that were effective and would prevent access by pre-teen users
 9 of their products.

10 947. Plaintiffs relied on each of the Defendants exercising reasonable care in undertaking
 11 to render age verification services.

12 948. Each Defendant breached its duty of undertaking by failing to use reasonable care
 13 in rendering its age verification services to prevent access by pre-teen users of its respective
 14 platforms.

15 949. Each Defendant failed to exercise reasonable care in rendering these age verification
 16 services.

17 950. Each Defendant's failure to exercise reasonable care increased the risk of, and was
 18 a substantial factor in causing, harm to pre-teen Plaintiffs and Consortium Plaintiffs who are the
 19 parents, guardians, spouses, children, siblings, close family members, and/or personal or estate
 20 representatives or pre-teen users of Defendants' respective platforms.

21 951. Each Defendant's failure to exercise reasonable care added to the risk of harm.

22 952. The injuries of Plaintiffs and Consortium Plaintiffs cannot be wholly remedied by
 23 monetary relief and such remedies at law are inadequate.

24 953. The nature of the fraudulent and unlawful acts that created safety concerns for
 25 Plaintiffs are not the type of risks that are immediately apparent from using Defendants' respective
 26 products. Many Plaintiffs are continuing to use Defendants' respective products. When Plaintiffs
 27 use Defendants' respective products, they will not be independently able to verify whether

Defendants' respective products continue to pose an unreasonable risk or rely on Defendants' respective representations in the future.

954. The conduct of each Defendant, as described above, was intentional, fraudulent, willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and displayed an entire want of care and a conscious and depraved indifference to the consequences of their conduct, including to the health, safety, and welfare of its customers, and warrants an award of punitive damages in an amount sufficient to punish each Defendant and deter others from like conduct.

955. Plaintiffs and Consortium Plaintiffs demand judgment against each Defendant for injunctive relief and for compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court deems proper.

**COUNT 7:
VIOLATION OF UNFAIR TRADE
PRACTICES/CONSUMER PROTECTION LAWS
(Against All Defendants)**

956. Plaintiffs and Consortium Plaintiffs reallege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

957. At all relevant times, each of the Defendants designed, developed, managed, operated, tested, produced, labeled, marketed, advertised, promoted, controlled, sold, supplied, distributed, and benefitted from its respective products.

958. Certain Plaintiffs and/or Consortium Plaintiffs will bring a cause of action for consumer fraud and/or unfair, deceptive, and abusive trade practices under applicable state law.

959. Each Defendant is on notice that such claims may be asserted by those Plaintiffs and/or Consortium Plaintiffs.

960. Plaintiffs used Defendants' respective social media products and suffered ascertainable losses and injuries as a result of each Defendant's respective actions in violation of consumer protection laws.

1 961. Had each Defendant not engaged in the respective unfair, deceptive, and abusive
 2 conduct described herein, Plaintiffs would not have used Defendants' respective social media
 3 products resulting in the monetary and physical injuries as alleged herein.

4 962. Fraudulent, unfair, deceptive, and/or abusive practices that violate state consumer
 5 protection laws include but are not limited to the following:

- 6 a. representing that goods or services have approval, characteristics, uses, or
 7 benefits that they do not have;
- 8 b. advertising goods or services with the intent not to sell them as advertised;
- 9 c. engaging in deception, fraud, false pretense, false premise,
 10 misrepresentation, or knowing concealment, suppression, or omission of any
 11 material fact with the intent that a consumer rely on the same in connection
 12 with the promotion of products and/or that creates a likelihood of confusion;
 13 and
- 14 d. Failing to provide adequate notice to parents about collecting personal
 15 information of children under the age of 13, as required by COPPA and
 16 accompanying regulations, the violation of which "shall be treated as a
 17 violation of a rule defining an unfair or deceptive act or practice." 15 U.S.C.
 18 §§ 6502(c).

19 963. Each Defendant has a statutory duty to refrain from fraudulent, unfair, deceptive,
 20 and abusive acts or trade practices in the design, development, promotion, and distribution of its
 21 respective products.

22 964. Each Defendant violated consumer protection laws, through its use of false and
 23 misleading misrepresentations or omissions of material fact relating to the safety of its respective
 24 social media products.

25 965. Each Defendant uniformly communicated the purported benefits and safety of using
 26 its respective social media products while failing to disclose the serious harms related to use,
 27 particularly to youth. Defendants made these representations to the public, the government, and
 28 consumers.

1 966. Under the various consumer protection laws in each state and other consumer
 2 protection statutes, each Defendant is the supplier, distributor, advertiser, marketer, and promoter
 3 of its respective social media products, and is subject to liability under such statutes for fraudulent,
 4 unfair, deceptive, abusive, and unconscionable consumer sales practices. Defendants' actions and
 5 omissions are uncured or incurable and Defendants were put on notice more than 30 days before
 6 this filing and failed to take any action to cure their actions or omissions.

7 967. Defendants' deceptive, unconscionable, unfair, abusive, and/or fraudulent
 8 representations and material omissions to Plaintiffs and Consortium Plaintiffs constituted consumer
 9 fraud and/or unfair, deceptive, and abusive acts and trade practices in violation of the various
 10 consumer protection statutes in the states and territories of the United States, which will be
 11 identified in the *Short Form Complaints*.

12 968. Each Defendant had actual knowledge of the defective and dangerous condition of
 13 its respective products and failed to take any action to cure those conditions.

14 969. The actions or omissions of each Defendant are uncured or incurable.

15 970. Plaintiffs and Consortium Plaintiffs relied to their detriment on Defendants'
 16 respective misrepresentations and omissions in deciding to use Defendants' respective social media
 17 products.

18 971. By reason of the fraudulent and unlawful acts engaged in by each of the Defendants,
 19 and as a direct and proximate result thereof, Plaintiffs and Consortium Plaintiffs have sustained
 20 economic losses and other damages and are entitled to statutory and compensatory damages in an
 21 amount to be proven at trial.

22 972. The injuries of Plaintiffs and Consortium Plaintiffs cannot be wholly remedied by
 23 monetary relief and such remedies at law are inadequate.

24 973. The nature of the fraudulent and unlawful acts that created safety concerns for
 25 Plaintiffs are not the type of risks that are immediately apparent from using Defendants' respective
 26 products. Many Plaintiffs are continuing to use Defendants' respective products. When Plaintiffs
 27 use Defendants' respective products, they will not be independently able to verify whether

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1 Defendants' respective products continue to pose an unreasonable risk or rely on Defendants'
2 respective representations in the future.

3 974. The conduct of each Defendant, as described above, was intentional, fraudulent,
4 willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and
5 displayed an entire want of care and a conscious and depraved indifference to the consequences of
6 its conduct, including to the health, safety, and welfare of their customers, and warrants an award
7 of punitive damages in an amount sufficient to punish each Defendant and deter others from like
8 conduct.

9 975. Plaintiffs and Consortium Plaintiffs demand judgment against each of the
10 Defendants for injunctive and monetary relief, including compensatory, treble, and punitive
11 damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court
12 deems proper.

COUNT 8:
FRAUDULENT CONCEALMENT AND MISREPRESENTATION
(Against Meta)

15 976. Plaintiffs and Consortium Plaintiffs re-allege and incorporate by reference each
16 preceding and succeeding paragraph as though set forth fully at length herein.

¹⁷ 977. This claim is brought against Meta.

18 978. As set forth in more detail above, Meta knew about the defective condition of
19 Instagram and Facebook and that the products posed serious health risks to users.

979. Meta was under a duty to tell the public the truth and to disclose the defective
condition of Instagram and Facebook and that the products posed serious health risks to users,
particularly youth.

23 980. Meta breached its duty to the public, users, and their parents, including Plaintiffs
24 and Consortium Plaintiffs, by concealing, failing to disclose, and making misstatements about the
25 serious safety risks presented by Instagram and Facebook. Even though Meta knew of those risks
26 based on Meta’s internal studies, external studies known to Meta, and information conveyed by at
27 least one scientific expert directly to Mark Zuckerberg, it intentionally concealed those findings, in
28 order not to lose users and advertising revenue, and to induce youth, including Plaintiffs, to continue

1 using Instagram and Facebook. Worse still, Meta made numerous partial material representations
 2 downplaying any potential harm associated with Instagram and Facebook and reassuring the public,
 3 Congress, and parents that these products were safe.

4 981. By intentionally concealing and failing to disclose defects inherent in the design of
 5 Instagram and Facebook, Meta knowingly and recklessly misled the public, users, and their parents,
 6 including Plaintiffs and Consortium Plaintiffs, into believing these products were safe for children
 7 to use.

8 982. By intentionally making numerous partial material representations, downplaying
 9 any potential harm associated with Instagram and Facebook, and reassuring the public, Congress,
 10 and parents, including Plaintiffs and Consortium Plaintiffs, that it was safe, Meta fraudulently
 11 misled the public, users, and their parents, including Plaintiffs and Consortium Plaintiffs, into
 12 believing Instagram and Facebook were safe for children to use.

13 983. Meta knew that its concealment, misstatements, and omissions were material. A
 14 reasonable person, including Plaintiffs and Consortium Plaintiffs, would find information that
 15 impacted the users' health, safety, and well-being, such as serious adverse health risks associated
 16 with the use of Instagram and Facebook, to be important when deciding whether to use, or continue
 17 to use, those products.

18 984. As a direct and proximate result of Meta's material omissions, misrepresentations,
 19 and concealment of material information, Plaintiffs and Consortium Plaintiffs were not aware and
 20 could not have been aware of the facts that Meta concealed or misstated, and therefore justifiably
 21 and reasonably believed that Instagram and Facebook were safe for children to use.

22 985. As a direct and proximate result of Meta's material omissions, misrepresentations,
 23 and concealment of material information, Plaintiffs and Consortium Plaintiffs sustained serious
 24 injuries and harm.

25 986. Meta's conduct, as described above, was intentional, fraudulent, willful, wanton,
 26 reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and displayed an entire want
 27 of care and a conscious and depraved indifference to the consequences of its conduct, including to
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the health, safety, and welfare of its customers, and warrants an award of punitive damages in an amount sufficient to punish Meta and deter others from like conduct.

987. Plaintiffs and Consortium Plaintiffs demand judgment against Meta for compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court deems proper.

COUNT 9:
NEGLIGENT CONCEALMENT AND MISREPRESENTATION
(Against Meta)

988. Plaintiffs and Consortium Plaintiffs reallege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

989. This claim is brought against Meta.

990. As set forth in more detail above, Meta knew about the defective condition of the Instagram and Facebook products and that the products posed serious health risks to users, particularly youth.

991. Meta was under a duty to tell the public the truth and to disclose the defective design of Instagram and Facebook and that the products posed serious health risks to users.

992. Meta owed a heightened duty of care to minor users of its products because children's brains are not fully developed, resulting in a diminished capacity to make responsible decisions regarding the frequency and intensity of social media usage. Children are also more neurologically vulnerable than adults to the addictive aspects of Instagram and Facebook, such as the peer approval that comes from amassing follows and likes.

993. Meta breached its duty to the public, users, and their parents, including Plaintiffs and Consortium Plaintiffs, and failed to take reasonable care by concealing, failing to disclose, and making misstatements about the serious safety risks presented by its products. Even though Meta knew of those risks based on Meta's internal studies, external studies known to Meta, and information provided by at least one scientific expert directly to Zuckerberg, Meta negligently concealed those findings, in order not to lose users and advertising revenue, and to induce children, including Plaintiffs, to continue using its products. Worse still, Meta negligently made numerous

1 partial material representations downplaying any potential harm associated with its products and
 2 reassuring the public and parents its products were safe.

3 994. By concealing and failing to disclose, or taking reasonable care to disclose the
 4 defects, Meta negligently misled users and their parents, including Plaintiffs and Consortium
 5 Plaintiffs, into believing Instagram and Facebook were safe for children to use.

6 995. By making numerous partial material representations downplaying any potential
 7 harm associated with its products and reassuring the public, Congress, and parents, including
 8 Plaintiffs and Consortium Plaintiffs, that its products were safe, Meta negligently misled the public
 9 users and their parents, including Plaintiffs and Consortium Plaintiffs, into believing Meta's
 10 products were safe for use.

11 996. As a direct and proximate result of Meta's material omissions, misrepresentations,
 12 and concealment of material information, Plaintiffs and Consortium Plaintiffs were not aware and
 13 could not have been aware of the facts that Meta concealed or misstated, and therefore justifiably
 14 and reasonably believed that Instagram and Facebook were safe for use.

15 997. As a direct and proximate result of Meta's material omissions, misrepresentations,
 16 and concealment of material information, Plaintiffs and Consortium Plaintiffs sustained serious
 17 injuries and harm.

18 998. Meta's conduct, as described above, was intentional, fraudulent, willful, wanton,
 19 reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and displayed an entire want
 20 of care and a conscious and depraved indifference to the consequences of its conduct, including to
 21 the health, safety, and welfare of their customers, and warrants an award of punitive damages in an
 22 amount sufficient to punish them and deter others from like conduct.

23 999. Plaintiffs and Consortium Plaintiffs demand judgment against Meta for
 24 compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees,
 25 and all such other relief as the Court deems proper.

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**COUNT 10:
NEGLIGENCE PER SE
(Against All Defendants)**

1000. Plaintiffs and Consortium Plaintiffs re-allege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

1001. At all times, each of the Defendants had an obligation to comply with applicable statutes and regulations, including but not limited to the PROTECT Our Children Act (*see* 18 U.S.C. §§ 2258A, 2258B), and COPPA (*see* 15 U.S.C. §§ 6501-6506, 16 C.F.R. § 312.2), as well as other federal laws.

1002. Each of the Defendants owed a heightened duty of care to minor users and their parents to implement age verification services that were effective and would prevent access by pre-teen users of its respective products.

1003. Each of the Defendant's respective actions as described herein violated these statutes and regulations, as well as other federal laws.

1004. Each of the Defendants failed to meet the requirements of 18 U.S.C. § 2258A by not reporting to NCMEC the violations of child pornography laws that they suspected to be in existence within its respective products.

1005. Specifically, each of the Defendants intentionally designed its respective products
in an attempt to limit and avoid its reporting requirements under this statute.

1006. Each of the Defendants also failed to minimize the numbers of its respective employees with access to visual depictions of Plaintiffs in violation of 18 U.S.C. § 2258B(c).

1007. COPPA (15 U.S.C. §§ 6501-6506; 16 C.F.R. § 312.2) establishes certain obligations for operators of websites and online services that are intended to inform parents and guardians about the collection of their children's personal information.

^{1008.} Each Defendant is an “operator,” as defined by 16 C.F.R. § 312.2.

1009. Each of the Defendants collects or uses personal information from children under the age of 13 through its respective websites or online services that are directed to (or that each Defendant has actual knowledge were used by) children. Each Defendant has actual knowledge that it collects personal information directly from users of its respective websites or online services.

1 1010. Each Defendant has collected or used personal information from children younger
 2 than age 13 in violation of COPPA by, at least:

- 3 a. Failing to provide through their respective websites and apps a clear,
 4 understandable, and complete direct notice to parents that described each
 5 Defendant's respective practices regarding the collection, use, or disclosure
 6 of children's personal information, in violation of 16 C.F.R. § 312.4(a) and
 7 (c);
- 8 b. Failing to make reasonable efforts, taking into account available technology,
 9 to ensure parents received such notice on their websites and applications so
 10 that parents could provide informed consent, in violation of 16 C.F.R. §
 11 312.4(b)-(c); and
- 12 c. Failing to obtain verifiable parental consent before any collection, use, or
 13 disclosure of personal information from children, in violation of 16 C.F.R.
 14 § 312.5(a)(1).

15 1011. Plaintiffs are within the class of persons that these statutes and regulations are
 16 intended to protect. This includes Plaintiffs who, as minors who use the Internet, are within the
 17 scope of persons the PROTECT Our Children Act and COPPA are intended to protect.

18 1012. Plaintiffs' injuries and/or symptoms are the type of harm that these statutes and
 19 regulations are intended to prevent.

20 1013. Violations of the foregoing statutes and regulations, among others, by each
 21 Defendant constitutes negligence *per se*.

22 1014. As a direct and proximate result of each of the Defendant's respective statutory and
 23 regulatory violations, Plaintiffs and Consortium Plaintiffs suffered serious injuries and/or sequelae
 24 thereto, including but not limited to emotional distress, diagnosed mental health conditions, loss of
 25 income and earning capacity, reputational harm, physical harm, past and future medical expenses,
 26 and pain and suffering.

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1015. As a direct and proximate result of each of the Defendants' respective statutory and regulatory violations, Plaintiffs and Consortium Plaintiffs require and/or will require more healthcare and services and did incur medical, health, incidental, and related expenses.

1016. Plaintiffs and Consortium Plaintiffs may also require additional medical and/or hospital care, attention, and services in the future.

1017. As a result of each of the Defendant's negligence per se, Plaintiffs suffered severe mental harm, leading to physical and mental injury, from use of and exposure to Defendants' respective social media products. Plaintiffs and Consortium Plaintiffs suffered serious damages in the form of emotional distress, diagnosed mental health conditions, medical expenses, loss of income and earning capacity, pain and suffering, and reputational harm.

1018. Plaintiffs and Consortium Plaintiffs have suffered physical harm, emotional distress, past and future medical expenses, and pain and suffering.

1019. The conduct of each Defendant, as described above, was intentional, fraudulent, willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and displayed an entire want of care and a conscious and depraved indifference to the consequences of its conduct, including to the health, safety, and welfare of their customers, and warrants an award of punitive damages in an amount sufficient to punish each Defendant and deter others from like conduct.

1020. Each of the Defendants is further liable to Plaintiffs and Consortium Plaintiffs for punitive damages based upon its willful and wanton conduct toward underage users, including Plaintiffs whom they knew would be seriously harmed using Defendants' respective social media products.

COUNT 11:
VIOLATIONS OF 18 U.S.C. §§ 1595 and 1591
(Against All Defendants)

1021. Plaintiffs re-allege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

1 1022. Plaintiffs bring claims under 18 U.S.C. § 1595 based on each of the Defendants'
 2 respective financial benefit garnered from knowingly assisting, supporting, and facilitating the
 3 sexual solicitation and exploitation of Plaintiffs for commercial sex acts.

4 1023. Each Defendant knowingly received value for its ongoing business practices that
 5 allow its social media products to become a means of online child exploitation despite the risk to
 6 children like Plaintiffs.

7 1024. Each of the Defendants knowingly advertises its respective social media products to
 8 children despite its knowledge of multiple child pornography-related crimes committed against
 9 children using their products.

10 1025. Each of the Defendants knowingly participates in a sex trafficking venture and
 11 receive value in the form of increased web traffic, and advertising revenue and are fully aware of
 12 the ongoing sexual abuse of children through the use of their social media products. Despite this
 13 knowledge, each of the Defendants fails and refuses to comply with the requirements of COPPA at
 14 15 U.S.C. §§ 6501-6505.

15 1026. Each of the Defendants fails and refuses to implement age verification and other
 16 safeguards within its respective products that would otherwise prevent the sexual abuse and
 17 exploitation of unsuspecting children.

18 1027. Each of the Defendants knew or should have known that it received value for its
 19 respective ongoing business practices that allow its social media products to become a means of
 20 online child exploitation despite the risk to children.

21 1028. Each of the Defendants knowingly used the instrumentalities and channels of
 22 interstate and foreign commerce to facilitate violations of 18 U.S.C. §§ 1591(a)(1) and 1595(a)
 23 occurring within the territorial jurisdiction of the United States.

24 1029. The conduct of each of the Defendants was in or affected interstate and/or foreign
 25 commerce.

26 1030. Each of the Defendants knowingly benefited from participation in what it knew or
 27 should have known was a sex trafficking venture in violation of 18 U.S.C. §§ 1591(a)(2) and/or
 28 1595(a).

1 1031. Each Defendant knowingly benefited from, and/or received value for participation
 2 in the venture in which Defendant knew that Plaintiffs would be forced to engage in commercial
 3 sexual acts while under the age of 18 years old.

4 1032. In an interstate and international commercial effort, each of the Defendants
 5 knowingly recruited, enticed, harbored, obtained, advertised, maintained, patronized, and/or
 6 solicited its users to create sexually explicit and/or obscene materials in which Plaintiffs were
 7 forced to engage in while under the age of 18 years old.

8 1033. Each of the Defendants' employees and/or agents had actual knowledge that it was
 9 facilitating and participating in a scheme to profit from the commercial sex acts of children.

10 1034. Each of the Defendants knowingly benefited financially from the sex-trafficking
 11 venture and the exploitation of children.

12 1035. The conduct of each Defendant caused Plaintiffs serious harm including, without
 13 limitation, physical, psychological, financial, and reputational harm that is sufficiently serious,
 14 under all the surrounding circumstances, to compel a reasonable person of the same background
 15 and in the same circumstances to perform or to continue performing commercial sexual activity, in
 16 order to avoid incurring that harm.

17 1036. The conduct of each Defendant conduct caused Plaintiffs serious harm including,
 18 without limitation, physical, psychological, financial, and reputational harm.

19 1037. The conduct of each Defendant, as described above, was intentional, fraudulent,
 20 willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and
 21 displayed an entire want of care and a conscious and depraved indifference to the consequences of
 22 its conduct, including to the health, safety, and welfare of its customers, and warrants an award of
 23 punitive damages in an amount sufficient to punish each of the Defendants and deter others from
 24 like conduct.

25 1038. Plaintiffs demand judgment against each of the Defendants for compensatory,
 26 treble, and punitive damages, together with interest, costs of suit, attorneys' fees, and all such other
 27 relief as the Court deems proper.

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COUNT 12:
VIOLATIONS OF 18 U.S.C. §§ 2255 and 2252
(Against All Defendants)

1039. Plaintiffs re-allege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

1040. Plaintiffs bring claims under 18 U.S.C. § 2255 based on each Defendant's violation
of 18 U.S.C. § 2252 which prohibits the knowing receipt of a visual depiction of Plaintiffs engaging
in sexually explicit conduct while a minor.

1041. Each Defendant violated the federal child pornography crime found at 18 U.S.C. § 2252(a)(1) which provides that any person commits a federal crime who:

(1) knowingly transports or ships using any means or facility of interstate or foreign commerce [...] any visual depiction, if—

- (A) the producing of such visual depiction involves the use of a minor engaging in sexually explicit conduct; and
- (B) such visual depiction is of such conduct.

1042. Each Defendant also violated the federal child pornography crime found at 18 U.S.C. § 2252(a)(2) which provides that any person commits a federal crime who:

(2) knowingly receives, or distributes, any visual depiction using any means or facility of interstate or foreign commerce [...] or knowingly reproduces any visual depiction for distribution [...] if—

- (A) the producing of such visual depiction involves the use of a minor engaging in sexually explicit conduct; and
- (B) such visual depiction is of such conduct.

1043. Plaintiffs suffered personal injury as a result of each Defendant's violation of 18
U.S.C. § 2252.

1044. 18 U.S.C. § 2255, entitled "Civil Remedy for Personal Injuries," provides that any person who is a victim of a violation of 18 U.S.C. § 2252 and who suffers personal injury as a result of such violation shall recover the actual damages such person sustains or liquidated damages in the amount of \$150,000 per victim, and reasonable attorney's fees.

1045. Plaintiffs intend to prove actual damages as a result of each of the Defendants' conduct.

1046. At a minimum, Plaintiffs intend to seek statutory liquidated damages in the amount
of \$150,000 against each Defendant, as well as the cost of the action, including reasonable
attorney's fees and other litigation costs reasonably incurred, prejudgment and post-judgment
interest, and such other relief as the Court deems appropriate, pursuant to 18 U.S.C. § 2255(a).

1047. Each Defendant's conduct, as described above, was intentional, fraudulent, willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and displayed an entire want of care and a conscious and depraved indifference to the consequences of its conduct, including to the health, safety, and welfare of their customers, and warrants an award of punitive damages in an amount sufficient to punish each of the Defendants and deter others from like conduct.

1048. Plaintiffs demand judgment against each of Defendants for injunctive and monetary relief, including compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court deems proper.

COUNT 13:
VIOLATIONS OF 18 U.S.C. §§ 2252A(f), and 1466A
(Against All Defendants)

1049. Plaintiffs and Consortium Plaintiffs incorporate by reference each preceding and
succeeding paragraph as though set forth fully at length herein.

1050. Plaintiffs and Consortium Plaintiffs bring claims under 18 U.S.C. § 2252A(f) based on each Defendant's violation of 18 U.S.C. § 1466A which prohibits the knowing production, distribution, receipt, and possession of any visual depiction of any kind [...] that—

- (1)
 - (A) depicts a minor engaging in sexually explicit conduct; and,
 - (B) is obscene; or
- (2)
 - (A) depicts an image that is, or appears to be, of a minor engaging in graphic bestiality, sadistic or masochistic abuse, or sexual intercourse, including genital-genital, oral-genital, anal-genital, or oral-anal, whether between persons of the same or opposite sex; and

(B) lacks serious literary, artistic, political, or scientific value.

1051. Plaintiffs and Consortium Plaintiffs suffered personal injury as a result of each Defendant's violation of 18 U.S.C. § 1466A.

1052. 18 U.S.C. § 2252A(f)(2), entitled “Relief” provides that the court may appropriate relief, including “temporary, preliminary, or permanent injunctive relief;” as well as “compensatory and punitive damages; and the costs of the civil action and reasonable fees for attorneys and expert witnesses.”

1053. Plaintiffs and Consortium Plaintiffs intend to prove actual damages as a result of each of the Defendants' conduct.

1054. At minimum, Plaintiffs and Consortium Plaintiffs intend to seek injunctive relief, and such other relief as the Court deems appropriate, pursuant to both 18 U.S.C. §§ 2255(a) and 2252A(f).

1055. Each Defendant's conduct, as described above, was intentional, fraudulent, willful, wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and displayed an entire want of care and a conscious and depraved indifference to the consequences of its conduct, including to the health, safety, and welfare of their customers, and warrants an award of punitive damages in an amount sufficient to punish each of the Defendants and deter others from like conduct.

1056. Plaintiffs and Consortium Plaintiffs demand judgment against each of the Defendants for injunctive and monetary relief, including compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court deems proper.

COUNT 14:
VIOLATIONS OF 18 U.S.C. §§ 2255, and 2252A(5)(b)
(Against All Defendants)

1057. Plaintiffs re-allege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

1 1058. Plaintiffs bring claims under 18 U.S.C. § 2255 based on each Defendant's violation
 2 of 18 U.S.C. § 2252A(a)(5)(B) and each Defendant's knowing receipt of a visual depiction of
 3 Plaintiffs while minors in violation of 18 U.S.C. § 2256.

4 1059. Each Defendant violated the federal child pornography crime found at 18 U.S.C.
 5 § 2252A(a)(5)(B) which provides that any person commits a federal crime who:

6 knowingly possesses, or knowingly accesses with intent to view,
 7 any ... material that contains an image of child pornography that
 8 has been mailed, or shipped or transported using any means or
 facility of interstate or foreign commerce ... or that was produced
 using materials ... affecting interstate or foreign commerce by any
 9 means, including by computer.

10 1060. Plaintiffs suffered personal injury because of each Defendant's violation of 18
 11 U.S.C. § 2252A(a)(5)(B).

12 1061. 18 U.S.C. § 2252A(f)(2), entitled "Relief" provides that the court may appropriate
 13 relief, including "temporary, preliminary, or permanent injunctive relief;" as well as "compensatory
 14 and punitive damages; and the costs of the civil action and reasonable fees for attorneys and expert
 witnesses."

15 1062. 18 U.S.C. § 2255, entitled "Civil Remedy for Personal Injuries," provides that any
 16 person who is a victim of a violation of 18 U.S.C. § 2252 and who suffers personal injury as a result
 17 of such violation shall recover the actual damages such person sustains or liquidated damages in
 18 the amount of \$150,000 per victim, and reasonable attorney's fees.

19 1063. Plaintiffs intend to prove actual damages as a result of each of the Defendants'
 20 conduct.

21 1064. At minimum, Plaintiffs intend to seek statutory liquidated damages in the amount
 22 of \$150,000 against each Defendant, as well as the cost of the action, including reasonable
 23 attorney's fees and other litigation costs reasonably incurred, prejudgment and post-judgment
 24 interest, and such other relief as the Court deems appropriate, pursuant to both 18 U.S.C. §§ 2255(a)
 25 and 2252A(f).

26 1065. Each Defendant's conduct, as described above, was intentional, fraudulent, willful,
 27 wanton, reckless, malicious, fraudulent, oppressive, extreme, and outrageous, and displayed an

entire want of care and a conscious and depraved indifference to the consequences of its conduct, including to the health, safety, and welfare of their customers, and warrants an award of punitive damages in an amount sufficient to punish each of the Defendants and deter others from like conduct.

1066. Plaintiffs demand judgment against each of the Defendants for injunctive and monetary relief, including compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court deems proper.

COUNT 15:
VIOLATIONS OF 18 U.S.C. §§ 2258B and 2258A
(Against All Defendants)

1067. Plaintiffs and Consortium Plaintiffs re-allege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

1068. Plaintiffs and Consortium Plaintiffs bring claims under 18 U.S.C. § 2258B based on each Defendant's reckless violations of 18 U.S.C. § 2258A.

1069. Pursuant to 18 U.S.C. § 2258A, each Defendant is required to report to NCMEC any apparent violation of any child pornography laws that Defendant discovers while providing electronic communication services.⁸⁷⁵

1070. While 18 U.S.C. § 2258B limits liability for providers of Internet services for actions taken pursuant to 18 U.S.C. § 2258A, this limitation does not apply to intentional, reckless, or other misconduct unrelated to the performance of the reporting requirements of 18 U.S.C. §§ 2258A, 2258C, 2702, or 2703.

1071. Each Defendant engaged in intentional misconduct to avoid reporting violations of child pornography laws involving Plaintiffs.

1072. Each Defendant had actual knowledge that violations of child pornography laws involving Plaintiffs were occurring on its social media products.

1073. Despite that knowledge and the requirements of 18 U.S.C. § 2258A, each Defendant intentionally and/or recklessly failed to act to report violations of child pornography laws involving

⁸⁷⁵ *United States v. Stevenson*, 727 F.3d 826, 829 (8th Cir. 2013).

1 Plaintiffs that each Defendants knew occurred through the use of its respective social media
 2 products.

3 1074. Each Defendant failed to report violations of child pornography laws involving
 4 Plaintiffs with actual malice.

5 1075. Each Defendant failed to report violations of child pornography laws involving
 6 Plaintiffs with reckless disregard to a substantial risk of causing physical injury to Plaintiffs without
 7 legal justification.

8 1076. Each Defendant failed to report violations of child pornography laws involving
 9 Plaintiffs for purposes unrelated to the performance of any responsibility or function under 18
 10 U.S.C. §§ 2258A, 2258C, 2702, or 2703.

11 1077. Each Defendant violated 18 U.S.C. § 2258B and recklessly and/or maliciously failed
 12 to report to NCMEC the violations of child pornography laws involving Plaintiffs that they
 13 suspected to be in existence within their products which is required by 18 U.S.C. § 2258A.

14 1078. Specifically, each Defendant intentionally designed their respective products in an
 15 attempt to limit and avoid their reporting requirements under this statute.

16 1079. In violation of 18 U.S.C. § 2258B(c), each Defendant also failed to minimize the
 17 number of their employees with access to visual depictions of Plaintiffs that may or may not
 18 constitute child pornography under 18 U.S.C. § 2256 and related case law.

19 1080. Plaintiffs and Consortium Plaintiffs demand judgment against each of the
 20 Defendants for injunctive and monetary relief, including compensatory, treble, and punitive
 21 damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court
 22 deems proper.

23 **COUNT 16:**
 24 **WRONGFUL DEATH**
(Against All Defendants)

25 1081. Plaintiffs re-allege and incorporate by reference each preceding and succeeding
 26 paragraph as though set forth fully at length herein.

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1082. This Cause of Action is asserted by and on behalf of Plaintiffs bringing their actions as heirs of Decedents or as duly-appointed representatives of the estates of Decedents pursuant to the laws of various states.

1083. As a direct and proximate result of the conduct of each of the Defendants and the defective nature of its respective social media products as outlined above, Decedents suffered wrongful death, and Plaintiffs suing as heirs or estate representatives of Decedents seek damages therefor, including loss of financial support, loss of society, funeral expenses, and estate administration expenses as permitted under various states' laws, and where applicable punitive damages

1084. Plaintiffs demand judgment against each of the Defendants for compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, as permitted under various states' laws and all such other relief as the Court deems proper.

**COUNT 17:
SURVIVAL ACTION
(Against All Defendants)**

1085. Plaintiffs re-allege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

1086. This Cause of Action is asserted by and on behalf of heirs of Decedents or the duly-appointed representatives of the estates of Decedents, pursuant to the laws of various states.

1087. As a direct and proximate result of the conduct of each of the Defendants and the defective nature of its respective social media products as outlined above, Decedents suffered bodily injury resulting in pre-death pain and suffering, disability, disfigurement, mental anguish, emotional distress, loss of capacity of the enjoyment of life, a shortened life expectancy, expenses for hospitalizations and other medical and nursing treatments, loss of earnings, and loss of ability to earn. Plaintiffs suing as heirs or estate representatives seek damages for these injuries to their respective Decedents as permitted under various states' laws, including where applicable punitive damages.

1088. Plaintiffs demand judgment against each of the Defendants for compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, as permitted under various states' law, and all such other relief as the Court deems proper.

COUNT 18:
LOSS OF CONSORTIUM AND SOCIETY
(Against All Defendants)

1089. Consortium Plaintiffs re-allege and incorporate by reference each preceding and succeeding paragraph as though set forth fully at length herein.

1090. As a direct and proximate result of the conduct of each of the Defendants and the defective nature of its respective social media products as outlined above, the Consortium Plaintiffs have necessarily paid and/or have become liable to pay, and will continue to pay and/or continue to be liable to pay, for medical aid, medical treatment, and medications of the Plaintiffs in this litigation.

1091. As a direct and proximate result of the conduct of each of the Defendants and the defective nature of Defendants' respective social media products outlined above, the Consortium Plaintiffs have been caused and will continue to be caused the loss of their childrens', wards', spouses', parents', siblings', and/or other close family members' consortium, companionship, services, society, love, and comforts, and their familial association has been altered, and, accordingly, the Consortium Plaintiffs have been caused great mental anguish and emotional distress.

1092. Each Defendant's conduct, as described above, was willful, wanton, reckless, malicious, fraudulent, oppressive, extreme and outrageous, and displayed an entire want of care and a conscious and depraved indifference to the consequences of its conduct, including to the health, safety, and welfare of Plaintiffs, and warrants an award of punitive damages.

1093. Consortium Plaintiffs demand judgment against each of the Defendants for compensatory, treble, and punitive damages, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court deems proper.

1 **VII. PRAYER FOR RELIEF**

2 Plaintiffs and Consortium Plaintiffs demand judgment against each of the Defendants to
3 the full extent of the law, including but not limited to:

- 4 1. judgment for Plaintiffs and Consortium Plaintiffs, and against each Defendant;
- 5 2. damages (both past and future) to compensate Plaintiffs and Consortium Plaintiffs
6 for injuries sustained as a result of the use of each Defendant's respective social
7 media products including, but not limited to physical pain and suffering, mental
8 anguish, loss of enjoyment of life, emotional distress, expenses for hospitalizations
9 and medical treatments, and other economic harm that includes but is not limited to
10 lost earnings and loss of earning capacity;
- 11 3. where alleged, damages to compensate Consortium Plaintiffs for loss of consortium,
12 companionship, services, society, love, and comforts, alteration to their marital or
13 filial association, and mental anguish and emotional distress;
- 14 4. where alleged, all damages available for wrongful death and survival;
- 15 5. exemplary, treble, and punitive damages in an amount in excess of the jurisdictional
16 limits;
- 17 6. attorneys' fees;
- 18 7. experts' fees;
- 19 8. costs of litigation;
- 20 9. pre-judgment and post-judgment interest at the lawful rate;
- 21 10. declaratory relief including, but not limited to, a declaration that each Defendant
22 defectively designed its respective products, failed to provide adequate warnings,
23 violated state consumer protection laws, and violated 18 U.S.C. §§ 1466A, 1595,
24 1591, 2252, 2252A(f), 2252A(5)(b), 2255, 2258A, and 2258B;
- 25 11. injunctive relief including, but not limited to, ordering each Defendant to stop the
26 harmful conduct alleged herein, remedy the unreasonably dangerous features in its
27 social media products, provide adequate warnings to minor users and parents that
28 its products are addictive and pose a clear and present danger to unsuspecting

1 minors, and prevent future violations of state law deceptive trade and practices acts,
2 including those premised on federal law such as COPPA; and

3 12. any other relief as this Court may deem equitable and just, or that may be available.

4 **VIII. JURY DEMAND**

5 Plaintiffs demand a trial by jury on all issues so triable.

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1 Dated: February April 14, 2023

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